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Determinants of Women's Participation in Micro Finance and their Decision Making in Household Income. A case of Amhara credit and saving Institution (ACSI), in Sekota woreda

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Declaration

I, **Gebrat Kidie**, do hereby declare that the thesis entitled “**Determinants of Women’s Participation in Micro Finance and their Decision Making in Household Income. A case of Amhara credit and saving Institution (ACSI), in Sekota woreda**” submitted by me in partial fulfilment of the requirements for the award of Master of Science in Economics (Development Policy Analysis) of Mekelle University, Tigray, is original work and it has not been presented for the award of any other degree, diploma, fellowship or other similar titles, of any other University or Institution.

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CERTIFICATE

I certify that this thesis entitled “**Determinants of Women’s Participation in Micro Finance and their Decision Making in Household Income. A case of Amhara credit and saving Institution (ACSI), in sekota woreda**”, is a bona-fide work of Mr. *Gebrat Kidie*, who carried out the research under my guidance. Certified further, that to the best of my knowledge the work reported here in does not form part of any project report or thesis on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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Abstract

In a subsistence agriculture and low income countries like Ethiopia , where smallholder farming dominates the overall national economy , who are facing with shortage of financial resources not only to purchase productive agricultural inputs but they also need to participate in income generating activities. Since 1996 Micro-finance institutions have made significant assistance to the livelihoods of many people through the provision of financial and supporting services to the poor, especially women in rural environments.

This study examined the determinants of women's participation in micro-finance institutions and their decision making in house hold income in a case study of Amhara Credit and Saving Institutions' (ACSI's) in sekota woreda.

For this study data was collected from a total of 309 rural women of which 209 are participants and 100 of them are non-participants in micro finance loan programme using simple random sampling method.

The empirical analysis of the study was conducted using both descriptive statistics and logit econometric model. The descriptive statistics indicates that participant women's are much more better than non participants in the variables of house hold asset holding, livestock holding, yearly average off farm income, involvement in decision making process in the house hold.

Whereas the estimation results of the logit model indicates out of 23 explanatory variables used 15 of them are significant.

Furthermore the estimation of the logit model in women's decision making in the house hold's income indicates as 6 variables out of 18 explanatory variables are significant.

The findings suggest the following set of recommendations. Provision of credit even for dwellers of at remote area, provision of comprehensive support in addition to credit for participants, enhances the job creativity of the beneficiary and should be promoted extensively. Make the interest rate as to the benefit of women's,, priority should be given in creating market for products and services along with other organizations, enhance women's involvement in social and community leadership.

Key words: *Micro finance, Participation, decision making and logit model*

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Acronyms

ACSI	Amhara credit and saving Institution
AEMFI	Association of Ethiopian Micro finance Institution
CSA	Central statistics Authority
DECSI	Dedebit credit and saving Institution
DPPC	Disaster Prevention and Preparedness Commission
GTP	Growth and transformation plan
MOFED	Ministry of finance and economic development
ORDA	Organization for Rehabilitation and development of Amhara
REST	Relief Society of Tigray
SHG	Self help group
VIF	Variance Inflation Factor
UNMDG	United Nations Millennium Development Goal

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CHAPTER ONE

INTRODUCTION

1.1. Background of the study

At now a day's reducing poverty and empowering the poor through providing loan has generated enormous passion among governmental organizations, donors and non – governmental organizations. Micro-finance is seen as an instrument for empowering the rural poor in a way that is self-sustaining. Participation in micro finance has been also increasing from time to time in several developing economies. Micro finance institutions have gained a worldwide acceptance and popularity since the 1980s in providing financial services to the poor.

Recent developments in the design of micro finance schemes have come out with innovative features which resulted in reduced costs and risks of making loan to poor and isolated people and made financial services available to people who were excluded previously(Abebe, 2006) Especially the proliferation of micro-finance programme, particularly micro-credit ,targeted to women is increasing from time to time(Tesfay,2003). Many of these programmes specifically target women on the basis of the view that they are more likely to be credit constrained than men, have restricted access to the wage labour market and have inequitable share of power in house hold decision making. It has been also found that providing credit to women rather to men has a greater impact on different house hold choice variables, such as house hold expenditure, status of children's schooling or health e.t.c (pitt and khandker,1998).In relation to this the World Bank is engaged in reducing poverty through promoting best practices in the micro finance industry and funding selected institutions to bring financial services to the poor women. The provision of micro-credit has been recognized as instrumental tool for eradicating and /or reducing poverty by many developing countries, including Ethiopia. From various studies ,Park and Ren (2001), summarized that micro-credit programmes have increased incomes and had other positive effects such as gender empowerment, improved nutrition , higher educational attainment, and reduced consumption variability.

Micro-finance programme in Ethiopia is growing rapidly and receiving increasing attention from the financial institutions ,non-governmental organizations (NGOs) and , the

government as an instrument to improve the lives of the poor (Getaneh, 2000). The funds which we have been allocated to them and the number of people who have been benefiting from the services have been rapidly growing. The study by Kereta (2007), on micro-finance outreach and financial performance, using simple descriptive analysis, graphs and percentage growth rates, showed that in terms of breadth of outreach micro-finance institutions are serving an increasing number of clients in each year from 2003-2007.

Micro-finance gives quick and tangible results to the poor people, especially women. Micro-finance when extended to people, especially women, in rural areas coupled with supporting activities like training, raw material supporting and, marketing of products leads to investment in micro-enterprises and women may become entrepreneurs, generate main or additional income to the family, development takes place and women get self-confidence to go for engage in different income generating activities which leads to social and economical empowerment and with her increased knowledge and awareness, development takes place.

Ethiopia's development planning has always aimed at reducing poverty, and removing inequalities in the process of development recognizing that women lag behind due to several socio-economic, cultural and political factors recognizing those and the like problems the current five year Growth and Transformation Plan (GTP) gives due attention to women's welfare, female education and their access to resource and empowerment. (MoFED, 2010)

Government of Ethiopia supports micro-finance institutions as one of the means of addressing the poorest segment of the society to reduce poverty. To this end, the government created a conducive environment for the development of micro-finance institutions by issuing proclamation No. 40/1996 (the micro-finance law) (Abebe, 2006). A study conducted by (Getaneh, 2005), shows micro-finance programmes focus on expanding local economic activities and improving the living standard of their clients by providing financial services. The establishment of long-lasting micro-finance institutions serving a large number of poor people has been a crucial element of Ethiopia's development strategy.

According to 2008 Federal Democratic Republic of Ethiopia's Population Census Commission (FDREPCC) report, the total population of Amhara region is 17,214,056 out of

these 8,577,181 are females. More than half of these females (51.15%) are within the age category of 15 – 59 years which is considered as a productive age.

In the region, agriculture is still practiced based on traditional farming methods which is dependent on rain fall and generally unimproved there by subjecting the people to very unreliable living conditions. In addition to this the long standing population settlement over-cropping , and little or no improvement in traditional farming practices have resulted in considerable environmental degradation , leading to a decrease in agricultural production and leaving the population highly vulnerable to recurrent drought and famine.

And hence in Ethiopia several Micro Finance Institutions (MFIs) have been established and operate towards resolving the credit access problem of the poor particularly to those participants in the petty business. The Amhara Credit and Saving Institution (ACSI) is one of those MFIs established in Ethiopia based in Amhara region , and aims to fill the gap of formal institutions by meeting the needs of small scale borrowers in income generating schemes. The study by Getaneh (2005), on Amhara credit and Saving Institution (ACSI) indicates that ACSI has served more than half a million clients. The micro-finance's growth in terms of number of clients is 22.9%. About 93% of regular clients live in rural areas.

However the number of ACSI client women's in sekota woreda are not as much as possible, rather the number of participant women's are few in number when compared with the population of the woreda. And hence this study aimed at identifying and analyzing factors that determine women's participation in micro-finance and their decision making on the house hold's income in Sekota Woreda of Wag-Himra zone with regard to Amhara credit and saving Institution(ACSI).

1.2. Statements of the problem

Women constitute about 50 percent of the Ethiopian population. Women are also engaged in different sectors of the economy. Even though rural women are major labourers in the agriculture sector, they hardly obtain proportionate earnings. Especially, in the rural parts of the country, women engage in a highly time consuming workloads like in crop-production and animal husbandry almost equally with their male partners. On the other hand, they are engaged with activities supporting the agricultural production such as food preparation, fetching wood and water, child rearing and caring e.t.c. Even if this is the

reality, due to cultural problems, un participatory policies and lack of awareness, women continue to be burdened with heavy workloads.(Tesfay A.D; 2003).

Women who constitute half of the population that also constitute the majority of disguisedly unemployed segment of the population are the most affected by poverty , and they have not been exposed to the economic opportunities that would enable them practice in alternative income generating activities. Lack of access to be engaged in off-farm activities i.e income generating activities makes women to be affected by the low level and harsh conditions of the rural life.

According to the World Banks Gender Statistics Database, women have a higher unemployment rate than men in virtually every country. In general, women also make up the majority of the lower paid, unorganized informal sector of most economies. These statistics are used to justify giving priority and increasing women's access to financial services on the grounds that women are relatively more disadvantaged than men (www.genderstats.worldbank.org).

Now days many scholars , policy makers and development planners have started advocating the important role of the emerging new phenomenon, micro-finance programme , for the advantage of poor Ethiopian women. The UN MDG aspires to reduce poverty by half by the year 2015. The MDG document recognizes micro-finance as a powerful instrument to alleviate poverty and empower women. The government of Ethiopia has been providing attention to reduce poverty in the country through different mechanisms .The issue of Micro-Finance Institutions (MFIs) are also formed with major objective to provide different service to low income group of peoples and contribute for the reduction of poverty in the country.

In providing micro-finance services to the poor , particularly to the women , Amhara Credit and Saving Institution (ACSI) has been encouraging women clients. However socio-demographic factors that determine women's participation in MFI is still studied poorly in the woreda . And hence this study aims to identifying, understanding, describing those factors which determine women's participation in micro finance and their decision making on the house hold income in Sekota woreda, is the main concern of this study. Research undertakings in such issues at the woredas level are essential since the results may give spot of light to development planners in order to poverty situation at the woreda level.

1.3.Objective of the study

1.3.1. General objective

The main objective of the study is to identify , analyze and examine major socio-economic determinants of women's participation in micro-finance and their decision making in the house hold income in Sekota woreda.

1.3.2. Specific objectives

1. To identify and analyze the major determinants of women's participation in micro finance
2. To identify the factors that determine women's decision making in the house hold income
3. To compare participants and non –participants overall improvement based on some selected variables

1.4.Research questions

The main research questions of the study are:

1. What are the major determinants of women's participation in micro finance institutions in the woreda?
2. What is the contribution of MFIs to women's income, saving, asset ownership house hold decision making?
3. What are the major factors for women's house hold income decision making?
4. What possible and viable recommendations could be forwarded for enhanced women's participation in micro-finance institutions in the woreda?

1.5.Research hypothesis

In order to achieve the research objective the following hypothesis are desired to:

- Women's participation in ACSI will have positive effect in increasing in their income, asset ownership, saving and self confidence(self sufficient in income)
- Women's participation in micro-finance will enhance women's role in decision making on house hold income than non-participation.

1.6. Significance of the study

There is a general consensus to address the issue of poverty and poverty alleviation programmes in the development strategy of Ethiopia. And hence neglect of women in development and disregarding the involvement of half percent (CSA, 2000) of the population aggravates poverty. Improving the social and economic well being of women is expected to improve the living standard of the society in terms of increased productivity ,nutrition ,health ,child schooling ,house hold management,, cultural change, and the likes.

However, this cannot be achieved without mobilizing the energy, talents and capabilities of this important section of population and empowering them to participate in decision making of house hold income. Based on this premises, this study will investigate the major determinants of women's participation in micro-finance and their decision making on the house hold income. Such studies focused on determinants of women's participation in micro finance institution are believed to formulate programmes on poverty alleviation. The findings of the study are believed to show the major factors that contribute women's to participate in MFIs and their decision making on the house hold income.

From this study interested researchers in the arena are expected to get a good knowledge on enhancing financial intermediaries for women and their improvement in decision making on the house hold income .Moreover, the results of the study will provide additional information about the programme participants in MFIs and will produce inputs for policy makers and executive bodies

1.7. Scope and limitation of the study

The study will be undertaken in one of the 133 districts of Amhara region, namely in Sekota Woreda. Sekota ACSI branch is one of 236 branches of ACSI and one of the seven branches of ACSI in Wag Himra zone. Being confined in one woreda, its external validity could be weak and hence, generalizations from the findings of the study to other areas may not be feasible. Besides the research design employed, namely, cross sectional design, collecting data at one time, and hence, one cannot generalize the findings from such one-shot studies to the population only at the time of the survey. In addition to this due to limited resources (human and material) the study is restricted only to 309 respondents of which 209 are participants and 100 are non-participants from the sample branch. Some problems

were encountered during the research period. Shortage of time, finance, lack of research document on regarding the study areas general profile posed a hurdle on the successful completion of the study.

1.8.Organization of the paper

This research paper is organized into five chapters. The first chapter deals with introduction of the study including background, problem statement, objective of the study, significance of the study, limitation of the study and organization of the paper. The second chapter deals on review of conceptual as well as empirical literatures related to topic of the study. While, chapter three deals with general features of the study area and the research methodology pursued, chapter four discusses the major findings of the study. Finally, Chapter five presents the conclusions and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Theoretical literature

2.1.1. The concept and definition of micro finance

Micro-finance is an economic development approach that involves providing financial services, through institutions, to low-income clients, where the market fails to provide appropriate services. The services provided by micro-finance institutions (MFIs) include credit, saving and insurance services. Some micro-finance institutions also provide social intermediation services such as training, education, health and skills in line with their development objective.

The Micro-finance movement has undergone tremendous transformation from its early years of application. In the early days of the 1980s and 1990s, emphasis was laid on women, group loans, compulsory savings, and less flexible products. Indeed, micro finance is said to be a new and emerging field in which there is still a lot to learn (Dunford, 2000). Although an evolving concept, micro-finance has been recognized as a development approach intended to benefit low-income women and men (Otero, 1999).

In using the term micro-finance, there exists, however, some confusion. The point of confusion lies on the nature of clients served and types of services offered. Regarding the nature of clients, through different scholars stated micro-finance programme, in different perspectives, most of them tend to believe that the programme has emerged to help the poorest sections of the society. However others like (Meagher, 2002) argues as micro finance meant for those who are able to repay the loan on time, because addressing sections of population who live below the poverty line is not consistent in practice. With regard to the type of services is concerned micro finance is often defined as 'it is providing a small amount of credit for a short period of time with the expectation of frequent repayment' (Ibid, 2002:7). Such understanding equates the concept with micro credit, which is rather a part of micro-finance service, and thus, micro-finance is much more than simply credit (Mc Guire and Conroy, 2002). In some other cases, micro-finance is conceived as the provision of credit and saving services only. This again limits the concept to micro banking, or simply banking services. But "micro-finance is not simply banking; rather it is a development tool" (Ledgerwood 1999:1).

In broader understanding , Ledgerwood (1999) conceived that micro finance refers to the provision of financial services to low income clients , including the self employed . Financial services generally including saving and credit ; however some micro-finance institutions (MFIs) also provide credit cards , payment services , money transfers and insurance services. Besides , many MFIs undertake social intermediation services such as group formation , development of self confidence , and training in financial literacy and management capabilities among members of a group, thus the concept of micro-finance often includes both financial and social intermediation ‘ (Ibid ,1999: 1)

For quite a long time formal financial institutions were not serving a useful purpose for the rural poor. In developing countries the poorer section of the community did not get access to formal financial sectors. They were simply kept out of the reach of the formal financial institutions for several reasons. This is due to the reasons given below. First, formal financial sectors require collateral and credit rationing. Second, prefer for high – income clients and large loans. Third , the processes and procedures of providing loan are bureaucratic and lengthy .fourth , they are often urban based and give lending to those engaged in trade and industry .Fifth , they usually consider the demand for loan by the poor as unattractive and un profitable (Bouman,1984, cited in Padma and Getachew, 2005; Chowdhury(N.D); Ghate, 1992); Khandker, 1998; and Henk M,1998, cited in Haimanot(2007). In accordance to this there was no exception even in Ethiopia as rightly pointed out in several studies (Gebeyehu, 2002, Mulat et al, 1998 and Wolday,2000, 2001 and 2002).

On the other hand, for such problems even informal financial sectors were not good either .They usually require high interest rates , which the poor particularly rural women can't afford to pay. These situations have also found to restrict the access of the poor towards informal financial sectors. Morduch (1998) argued in his study conducted in Bangladesh that since money lenders operate with little competition , they charge high interest rates . Generally , according to Hulme (2000) cited in Haimanot(2007), capital markets in developing countries do not work well so much so that they do not favour and development endeavour by the poor.

However, the year of 1974 was a land mark in the history of micro finance development. It was by then that Professor Muhammad Yunus , a Bangladesh economist introduced the idea of providing the poor with small loans . Thus, the limitations of financial institutions in providing the poor with credit have become the driving forces behind the emergence

of MFIs. Now a days , micro-finance institutions are bargaining to provide the poor with financial as well as technical assistance .Today, replications of the Grameen model are proliferating all over the world owing to its importance. While emphasizing the importance of micro-finance , Kofi Anan , the late Secretary General of the United Nations once said ‘ *Micro-credit is a critical anti –poverty tool a wise investment in human capital.*

When the poorest especially women receive credit they became economic actors with power .Power to improve not only their own lives but , in a widening circle of impact , the lives of their families , their communities and their nations . The accomplishment of MFIs is therefore a manifestation of a paradigm shift that defeated the old notion that the poor are not ‘credit worthy’ (Bamlaku ;2006 as cited in Getaneh(2005).

Based on this **Micro credit** was defined as the extension of small loans who typically lack collateral, steady employment and a verifiable credit history. It is designed to spur entrepreneurship, increase incomes, alleviate poverty and often also to empower women.

As of 2012 , micro credit is widely used in developing countries and it is presented as having ‘ enormous potential as a tool for poverty alleviation (Jaleta,2012).’ It is in recognition of its importance that the United Nations had declared 2005 the international year of credit.

Brown(2005), defined micro finance as it is the supply of loans ,savings, money transfers, insurance, and other financial services to low income people. Whereas Paolo(2010) defined micro finance as a broad category of services, which includes micro-credit. Micro-credit is provision of credit services to poor clients. Although microcredit is one of the aspects of micro finance, conflation of the two terms is endemic in public discourses.

2.1.2. Definitions and related studies on empowerment

The World Development Report (2001) underscored that the need for increasing poor people’s access to opportunity ,security, and empowerment for economic growth and poverty reduction . Especially ,the Beijing Declaration , as pointed out in Dooren(2007), as cited in Ferdissa(2012) presents women empowerment as a key strategy for development’ women’s empowerment and their full participation on the basis of equality in all spheres of society , including participation in the decision making process and access to power , are fundamental for the achievement of equality and peace’’

The verbal definition of empowerment is related to the word *power* in English , the concept leans on its original meaning of investment with legal power, i.e. permission to

act for some specific goal or purpose (Batiwala, 1995). Rowland (1997) has also conceived empowerment, giving greater emphasis on power. According to him the power process involves four dimensions, i.e., power from within: individual changes in confidence and consciousness; power to capability and capacity improvement as in skills, income, and market and job access power over; overcoming subjugation at household community and macro level, power with, networking, partnership, collaboration and joint action to challenge and change power relations.

However, the term empowerment has different meanings in different socio-cultural and political contexts and does not translate easily into all language. In connection with this, Mayoux (2002) stated that although a number of works have been done on the concept and indicators of empowerment, it is a loaded term that means many things to different people and has subsequently gained a language command within the development discourse.

Narayan (2002), conceived the subject in its broader sense in which empowerment is the expansion of freedom of choice and action. It means increasing one's authority and control over the resources and decisions that affect one's life. In addition, Borchgrevink et al (2005) indicated the empowerment's core meaning refers to a process whereby a person or a group became less dependent on external circumstances (force) and more capable of influencing key processes relating to the situation of his/her/their life and livelihood.

In sum, the concept of empowerment, focuses at (1) a gradual process of change of both actors and structures (2) power and capacity that are requisite in asserting oneself in resource access and attaining the desired human capabilities and (3) interactions amongst actors including the individual, household, and community.

Albee (1994, cited in Haimanot (2007) studied that economic empowerment projects usually focused on income generating activities, which allow women to independently acquire their income. Income-generating activities encompass a wide range of areas, such as small business promotion, cooperatives, job creation schemes, sewing circles and credit and saving groups. Khanker et al (1998) reported substitutions from wage employment to self employment.

Anjugam and Alagumani (2001) studied that micro-finance has brought considerable improvement in decision making skills among women, gave them confidence in managing the financial crisis of the family, assertiveness in protesting against social evils like drinking water problems and dowry and gambling etc.

Akinsanm(2005) studied that impoverished rural women faced multiple disadvantages. They tend to have limited access to income, land, water, capital education and other social services, which could lead to illiteracy, malnutrition, disease, high infant mortality and low life expectancy. Despite these disadvantages, rural women shoulder heavy responsibilities, such as growing and processing food, collecting water and firewood, cleaning the home and looking after their children. And though they work hard, the productivity of these women is diminished by the lack of credit, technology and extension services, which could ease their burdens, and socio-cultural constraints. Sarangi (2007) cited in ferdisa(2012) evaluated the impact of micro-finance programme on rural poor households in some background regions of Madhya Pradesh in India. The findings suggest that on the one hand, many of the very poor households were excluded from the programme and on the other, the gains from participation of the programme were mostly observed for the better-off section of households, particularly those with high per capital income or the large land lord holders. He concluded that credit to serve as a sole instrument of poverty alleviation did not seem to be plausible, without other corroborative mechanisms that help in increasing the potential of credit use by the poor or the small farmer. Sharma(2007) examined the impact of participation in micro-finance programme on women's autonomy and gender relations within the household. For this purpose participants of the programme were surveyed in Hill and Terai areas of Nepal during the period of 2004 to 2006. It was also found that micro-finance institutions had reached only a tiny fraction of the population and the challenge was to multiply the existing services. The researcher suggested that government should build conducive environment to develop micro-finance services. Ranjula, Bali Swainan and Fan yang Wallentin(2009) cited in jaleta(2012) strongly concluded in their study that self help group members were empowered by participating in micro-finance programme in the sense that they could have a greater propensity to resist existing gender norms and culture that restrict their ability to develop and make choice.

2.1.3. Micro finance and women's participation

A majority of micro-finance programmes target women with the explicit goal of empowering them. However, their underlying premises are different. Some argue that women are amongst the poorest and the most vulnerable of the underprivileged. Others believe that investing in women's capabilities empowers them to make choices, which is valuable in itself, and also contributes to greater economic growth and development. Empowerment as a

strategic development approach for women involves two levels; intrinsic and extrinsic . The extrinsic level refers to gaining greater access to and control over financial and physical resources. On the other hand , the intrinsic level involves changes within , such as the rise in self –reliance , confidence , motivation and positive hope for the future . It recognizes women’s multiple roles and seeks to meet strategic gender needs through bottom –up participation on resources and development issues that concern the life of women. Economic exclusion reinforces and perpetuates social exclusion. In the context of women, particularly poor women , their conditions become even more vulnerable due to unequal distribution of resources within and outside the domain of the house hold . Any mismatch between the minimum basic requirements and the resources available results in unfulfilled practical gender needs . In other words poverty is the end state implying lack of entitlement emerging from insufficient assets and capabilities for the fulfilment of basic livelihood needs. This result in the social and economic exclusion of a certain class and category of people and their consequent disempowerment .Hence , the idea of ‘ empowerment’ has influenced development practitioners, development agencies (governmental and non-governmental) , theoreticians and donor agencies in the last decade (Padma and Getachew, 2004).

Another motivation is the evidence from literature that shows that an increase in woman’s resources result in higher well-being of the family, especially children. Finally an increasing number of micro-finance institutions prefer women members as they believe that they are better and more reliable borrowers there by contributing to their financial viability(Armendarize de Aghion and Morduch(2005) cited in Haimanot(2007) ,a more feminist point of view stresses that access to financial resources presents an opportunity for greater empowerment of women. Though many agree that women empowerment is an important development objective for micro-finance programmes ,it is still unclear what women empowerment means(Bali Swain,2007 cited in Jaleta(2012)).

In an insightful reflection on the empowerment of women’s empowerment , otero(1999) explains that women’s empowerment refers to the process by which those who have been denied the ability to make strategic life choices acquire such ability .This ability to exercise choice incorporates three inter-related dimensions :resources which include access to and future claims to both material and social resources ;agency which includes the process of decision –making ,negotiation ,deception and manipulation ;and achievements that are the well being outcomes. Given the complexity of defining women

empowerment it is not surprising that only a few empirical studies have tried to examine the impact of micro-finance on women empowerment.

In a comprehensive study, Pitt et al. (2006), use Item Response Theory (IRT), where the element of analysis is the whole pattern of a set of binary indicators that proxy for woman's autonomy, decision-making power, and participation in house hold and societal decision making. They find that credit programmes lead to women taking a greater role in household decision-making having greater social networks, more bargaining power vis-a-vis their husband and having greater freedom of mobility. Additional services like training, awareness raising workshops and other activities over and above the minimalist (financial services only) micro-finance approach are also an important determinant of the degree of its impact on the empowerment process of women.

Holvoet (2005) cited in Haimanot (2007) finds in her study of women in rural Kenya that in direct bank-borrower minimal credit, women do not gain much in terms of decision-making power within the house hold. However, when loans are channelled through women's group and are combined with more investment in social intermediation, substantial shifts in decision-making patterns is observed. This involves a remarkable shift in norm-following and male decision-making towards more bargaining and sole female decision-making within the house hold. She finds that the effects are even more striking when women have been members of a group for a longer period and especially when greater emphasis has been laid on genuine social intermediation. Social group intermediation had further gradually transformed groups in to actors of local institutional change.

Another issue that needs further investigation is whether without change in the macro environment, does micro-finance reinforce women's traditional roles or does it promote gender equality? A woman's practical needs are closely linked to the socially defined gender roles, responsibilities and social structures, which contribute to a tension between meeting women's practical needs in the short-term and promoting long term strategic change. By helping women meet and increase their efficiency in their traditional roles, micro-finance may in fact help women to gain respect and achieve more in their socially defined roles, which in turn may lead to increased esteem and self confidence. Therefore, as Wener (2003) argue increased self-confidence does not automatically lead to empowerment, it may contribute decisively to a woman's ability and willingness to challenge the social injustices and discriminatory systems that they face. This implies that as women become financially better-off their self-confidence and bargaining power

within the household increases and this indirectly leads to their empowerment. Finally, given that empowerment is a process the impact of the micro-finance programme may take a long time before it is significantly reflected on the observable measure of women empowerment.

Women's economic empowerment is thus the process, and the outcome of the process, by which women gain greater control over material and intellectual resources, and becomes less dependent on external forces. Even so, great debate tends to persist as to whether the provision of micro-finance for poor women could change the social and economic equations in which this sub-set of the population live in villages, and further tend to empowerment. According to Mayoux (2002), there are four basic views on the link between micro-finance and women's empowerment.

1. There are those who stress the positive evidence and are essentially optimistic about the possibility of sustainable micro-finance programmes empowering women worldwide.
2. Another school of thought recognizes the limitations to empowerment, but explains those with poor programme design.
3. Others recognize the limitations of micro-finance for promoting empowerment, but see it as a key ingredient as important in themselves within a strategy to alleviate poverty, empowerment in this view needs to be addressed by other means.
4. Then there are those who see micro-finance programmes as a waste of resources.

2.1.4. The importance of rural financing

According to Batiwala, S(1995), most poor people manage to mobilize resources to develop their enterprises and their dwellings slowly over time. Financial services could enable the poor to leverage their initiatives, accelerating the process of building incomes, asset and economic security. However, conventional finance institutions seldom lend down market to serve the needs of low-income families and women-headed households. They are often denied access to credit for any purpose, making the discussions of the level of interest rate and other terms of finance irrelevant. Therefore, the fundamental problem is not so much of unaffordable terms of loans as the lack of access to credit itself.

The lack of access to credit for the poor is attributable to practical difficulties arising from the discrepancy between the mode of operation followed by financial institutions

and the economic characteristics and financing needs of low-income women's. And hence with regard to this (Edith, T., 2009) considers the issue of rural financing case that, rural financing making investment and increasing their future earning capacity. Saving build members to form capital for investment, consumption, and emergency and protect from their husbands when necessary, reducing wasteful consumption. saving gives to women's a sense of ownership, security and hope and give them great voice within their families and greater recognitions or respect by the community within their family. This finding also indicates as having saving account makes participants more confidential and can make self decision by women alone.

Rural financing have a role in sending children to school and reduce poverty. With regarded to the services provided having saving account helps for children and increase women's ability to gain access to resources is an important in process of empowerment. Credit to women has positive effect on women's asset holding, it increase house hold income and is a use full for total house hold expenditure. The credit shows women to participate in education, training in health, agriculture and business activities.

2.1.5. Revolution of formal micro financing in Ethiopia

The time since which formal micro-finance services are provided is not long. The initiative to provide credit services to the rural and urban poor and micro-enterprises started in the late 1980s when emphasis started to shift from agricultural producers, co operatives and large scale producing units to private small scale enterprises.

Integration of the credit schemes initiated by local non- governmental organizations like the Relief society of Tigray (REST) and Organization for Rehabilitation and Development in Amhara(ORDA) into the formal financial system contributed to the formulation of a regulatory and supervision frame work for efficient delivery of services to the urban and rural poor and the issuance of a new proclamation for licensing and supervision of Micro-financing institutions (proclamation No.40/1996) in 1996. Pursuant to this new provision, all the NGO based credit schemes and all those engaged in micro-financing activities in cash or in kind have to be reorganized in terms of share companies, fully owned by Ethiopian nationals and /or organizations as defined under Article 304 of the commercial code of Ethiopia. The proclamation empowers the National Bank of Ethiopia to license, supervise and regulate the activities of the micro-finance institutions (Gebrehiwot, 2001).

According to the EMFIs performance analysis report (2006), the basis of the government of Ethiopia to restructure the financial sector in the 1990s has had significant impact on the growth and commercialization of both banks and MFIs in Ethiopia.

Hence after, the growth of micro-finance has been remarkable in the past some years. Accordingly, several studies show that the MFI industry is contributing to the improvement of the living standards of the poor. Because of access to credit, women are encouraged to take economic and entrepreneurial risks at 30 percent higher than men (Meehan, 2001). In the same study the author indicated 60 clients (94%) reported a significant increase in income as a result of access to credit although the income of some of the clients has dropped after a certain period of time. Also, the author indicated that access to micro-finance has contributed to greater usage on basic household food, increase in asset and smoothening consumption in the clients households.

A study made by Tsehay and Mengistu(2002) cited in Haimanot (2007) show that 84 percent of frequent rural women clients and 62.9 percent of frequent urban women clients have shown significant improvement in their household income. The authors concluded that access to micro-finance positively contributed to ownership of additional household assets, which are important for empowering women clients economically. Generally the authors concluded that MFIs intervention resulted in improving household diet as well.

A study conducted in Amhara credit and saving Institution indicates that as ACSI is growing strongly and made a positive contribution not only in the region but also as an example to MFIs internationally. The study found that ACSI had a positive contribution at four levels: the enterprise, the participant's households, the participant and the clients communities. Further the finding indicates as there is great improvement in personal control over economic resources, personal saving, child labor, women's decision making ability.

Yet another study conducted on the Dede-bit Credit and Saving Institution (DECSI) found that DECSI programme has had a positive impact on the livelihood of its clients. Compared to non-clients, clients have experienced greater improvement on their living standards. This situation has improved in terms of income, consumption and assets. They also seem to be more food secure and less vulnerable to shocks and have a greater diversification in terms of income sources. The study found that the improvement in economic condition of the clients is necessary condition for DECSI's programme that

could lead to social and political empowerment for the marginalized groups. The study also concluded the economic empowerment leads to social and political empowerment.

2.2. Empirical literature review

Participation in micro-finance has been increasing from time to time in several developing countries. Various studies conducted in different countries on the performance of micro-finance institutions attest to this fact (Zeller and Meyer 2002, Robert Cull et al. 2007, Paolo, 2010).

According to paper conducted by Borchgrevink (2005), on marginalized groups, credit and empowerment for the case of Dedebit Credit and Saving Institution (DECSI) of Tigray and he indicated as female headed households, young households, rural landless and urban dwellers who live through renting houses are some of marginalized group of peoples. Through two-phase assessment, the study found that DECSI's programme has had positive impact on the livelihood of and as well enhanced the social and political position of many clients. Concerning the constraints for economic development, the study noted poor rainfall, small farm size, and shortage of labour during peak agricultural seasons as the main constraints (Alemayehu, 2008).

2.2.1. Related studies on determinants of participation

Zeller (2004) explained as there are a number of factors that imitate borrowers to take loan from the lending organizations. In addition Schmidt and Kropp (1987) cited in sisay (2008) explained as the access of credit is determined by the type of the institution and the policy that the organization follows. A study conducted by Atieno (2001) depicts that the distance to micro finance, asset owned by the borrower, income level of the participants were significant variables that explain the participation of borrowers in formal lending institutions. Where Hussein (2007), cited in sisay (2008) indicated that participants are more likely prefer informal lending organizations or individuals due to the fact that it is possible to reschedule the time of loan repayment time. This was latter on supported by Padmanabnam (1996), comparing the informal credit sector from the formal stated that proximity, conducive environment, access of credit with less bureaucracy, able to repay the loan by setting flexible repayment period, and low costs are some of the reasons for borrowers to take loan from informal institution than that of the formal one.

Hussien also added that and women loan take requirements like collateral requirements should not be stand for small farmers and women borrowers. That is the poor can use the

loans and repay if effective procedures for disbursement, supervision and repayment have been established. On the other hand, Getaneh(2005), stated that group lending approach effectively ration out some groups of farm households (The poorest of the poor). That is co-borrowers tend to self select themselves into a group of homogenous members that effectively discriminates against some others to reduce risk of carrying the burden of repayment in case of defaults of co-borrowers.

As cited in sisay (2008) variables like gender, educational status, house hold labour and farm size are factors that affect the probability of choosing formal credit sectors((like choosing micro finance institutions) positively. Furthermore factors like education, credit information and extension visits were the variables that increase decision making ability of women at house hold level and enhance the information access and base for better and maximized decision making purpose. And this helps to compare advantage and disadvantage of choosing appropriate credit lending organization.

Furthermore another study result cited in sisay(2008) indicate that sample survey of 699 randomly selected peasant farmers in Bolivia, Miller and Atieno (2001), applied discriminate analysis to identify a set of socio-economic, physical and psychological factors that influence credit use among small farmers with a view to differentiate between borrowers, potential borrowers, and non-borrowers. The results of the study indicated that borrowers were characterized by higher resource base, farm size, higher level of education, large number of cattle, higher household. Incomes, higher level of market integration, greater use of improved technology, larger operating costs and investments, higher risk ability, etc. Potential borrowers were characterized by further distance from markets, low level of market integration, higher transaction costs, less number of cattle, etc. Furthermore, non-potential borrowers were characterized by lack of interest to expand production, lower level of education, limited use of improved technology, shortage of labour and proximity to market.

Furthermore Hussien(2008) indicated that households who are far away from micro finance institutions are discouraged to borrow due to the distance to travel. This is due to the fact that increase in distance between lender and borrow increases the cost of transportation, and even it consumes work of time as well. In relation to this study ,a research conducted by Moheildin and Write(2000) cited in sisay(2008) using a probit model analysis indicate, as the formal credit sector shows the impact of explanatory variables on the outcome of whether a person has a loan. Furthermore the study indicate that factors like total asset ownership, ownership of land, house hold size, educational level of the respondent are some of the significant factors in the study. The study also shows that the demand side that is the demand of loan by the borrower and the supply of loan by the lending organization are determined when enough loans exists. Furthermore Hussien (2007), in his study he also added that the choice of the formal sector increases as the number of productive members of the house hold increase. The study also indicate that low level of educational attainment of

farm house hold's have contributed for limited use of formal sector credit use by the borrowers.

Yet another study conducted by Assefa (1989), empirically tested a set of important socio-factors influencing agricultural credit use among small households aimed at differentiating credit participants from non-participants. In his finding he conclude that large farm size, high investment, were significant explanatory variables in distinguishing participants from non –participants.

A study conducted by (Zeller, 2001) showed as participation in micro finance increase, if it actually borrows from that source of credit before. He also added that regularity in attending meetings, higher share of credit for production than using it for consumption , and having increased rate saving are some of the important factors that determine participation level of women's in micro finance institutions. Furthermore a study conducted by (Puhazhendhi and Jayaraman, 1999, cited in haimanot(2007) shows as households headed by women than those headed by men has higher in participation.

Study conducted by (Diagne, 1999) depicts as the composition of household assets was found to be the most important determinant of household's access to formal credit than the total value of assets or land size. Higher share of land and livestock in the total value of household assets was negatively correlated with the access to formal credit. In addition to this Basu (2005) shows as the access of formal and informal finances by the house holds decreased the participation of the household in micro finances.

A study conducted in India by M.Anjugam and C. Ramasay(2007) indicated that Analysis on the determinants of women's participation in microfinance programme had shown as availability of productive assets other than land and age of the respondent, have a negative correlation along with women's participation in micro finance programme. Furthermore their study indicate as variables like indebtedness, social backwardness, presence of other micro credit programmes in the same or nearby villages have positive association with women's participation in the microfinance programme. It has been suggested that higher number of self-help groups may be formed among the economically and socially disadvantaged households in order to relieve them from the clutches of moneylenders and at the same time to bring the poor under the fold of formal banking institutions.

2.2.2. Overview of Amhara credit and saving institution (ACSI)

The Amhara Credit and Saving Institution (ACSI) was established in the Amhara region , and aims to fill the gap of formal institutions by meeting the needs of small scale

borrowers in income generation schemes. It was initiated by the organization for the Rehabilitation and Development in Amhara (ORDA), and indigenous nongovernmental organization engaged in development activities in the Amhara region. In a move to depart from the more usual direct provision of relief, the nongovernmental organization created a department to supply small credit to rural people on a pilot basis. That department grew into a separate institution, and ACSI was licensed as a micro finance share company in April 1997, with the primary mission of improving the economic situation of low income, productive poor people in the Amhara region through increased access to lending and saving services.

ACSI was performing better (and is still) than other MFIs in Ethiopia and Africa despite tough environments such as seasonality issues, high covariant risk, low returns, poor infrastructure, uneven cash flows, transportation difficulty, high diversity, relatively sparse population and dependency on rain fed agriculture. The impact study shows that the wealth of the producer having access to credit is greater than that of the ones without access to credit. It was proved that the net income of clients increased along with the growth rate of return of variable input.

.ACSI also had a significant impact on asset creation, improving employment, as well as backward and forward linkage at macro level.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Brief description of the study area

Wag Himra Zone is one of the 11 administrative zones found, in the Amhara National Regional state. It is bordered to the north and east by Tigray Region , to the south by North Wollo Zone, and to the west by North Gonder Zone. The Zone is located between $12^{\circ} 15^1$ and $13^{\circ} 16^1$ north latitude and $38^{\circ} 20^1$ and $39^{\circ} 17^1$ East longitude. The zone constituted by six rural woredas(sekota , Ziquala , Abergelle, Sehala, and Gazigibla, Dehana) and one Town administration named Sekota town. The capital town of wag Himra Zone is Sekota.

3.1.1. Demographic aspect of the woreda

According to the wag Himra zone finance and economic development population projection in 2008 (based on population and housing census of 1995), the total population of Sekota Woreda is 144,749, of which 134,023(92.6%) people reside in rural areas whose life depend upon subsistence agriculture and 10,726(7.4%) are urban dwellers. The settlement pattern of the population in the woreda is much nucleated as is typical in highlands of Ethiopia where mixed farming is the main economic activity. (WHEPDD, 1998). According to the same source, the average family size of households is estimated to be 5. The economically active population for the study area is approximately 56%. This is primarily due to the high participation of the 13-16 years age group in the labour force. More than 60% of the children in this age group are formally included in the economically active population (Sekota Woreda, 1998). Regarding the ethnic background of the population 87% of the peoples are Agewes. The rest are from Amhara (9%) and Tigray (4%). The dominant languages of the Agew people is “ Himitegna” which is spoken by 72% of the population of that woreda. The majority of the inhabitants of the woreda are followers of the orthodox religion (99.8%) followed by Muslims(0.2%).

3.1.2. Economic aspect of the woreda

Agriculture is the main stay of economic activity in sekota woreda .About 93% of the Population of the woreda is engaged in mixed farming and the rest 7% of the population engaged in trading, government officials, daily labourer, weaving and etc. The farming

system can generally be characterized as mixed, and includes the production of arable crops and rising of livestock. The level of production for both sectors remains far below its potential, mainly because of adverse climatic conditions due to erratic rainfalls and long standing drought periods. Other reasons include, the relatively small land holdings; which range from 0.25 to 0.75 hectares, and insufficient application of basic agricultural inputs such as fertilizers and pest control techniques (DPPC, 2000)

3.1.3. Crop and livestock production

The livelihood of the population in the study area is mixed farming. The pattern of crop production in the woreda varies from high lands to lowland. The major crops grown in the woreda are teff, sorghum, barely, beans and peas. These five major crops accounts for more than 60% of the annual crops grown. Livestock rearing concerns mainly with cattle, mule, donkey, goats and the like animals.(Dppc,2000)

3.2. Methodology of the study

3.2.1. Data source and sampling

For the purpose of achieving the objectives of the study both primary and secondary data was used in this study. Mainly the primary data was gathered by a means of a structured questionnaire that was responded by ACSI participants and non-participants of who live in rural kebeles of Sekota Woreda. Parallel to this, focused group discussions was held along with the programme beneficiaries and non beneficiaries. Here factors that affect women participation in micro finance and their decision making at house hold income level is analyzed. In addition , separate interviews was conducted with officials and experts of ACSI at different levels, i.e., at Zonal branch office , woreda (sub-branch office) levels. Similarly information was gathered from women who have case histories and from other relevant bodies through interviews , and discussions along with woreda Women , Children and Youth office and woreda Agricultural and rural development office has been conducted . Another discussion was also held with female participant male partners, families, relatives, and local money lenders whether those ACSI women participants are demand credit from other sources other than credit. In addition the study was also augmented by secondary data obtained from various sources (books, occasional papers ,journals, proceedings, reports, official statistical abstracts, bulletins, websites and researches undertaken in the area.

The study used both quantitative and qualitative data. The quantitative analysis of the survey data in the present study was complemented by qualitative data that gathered from focus group sessions, selected interviews with who will have case histories, and other relevant bodies.

3.2.2. Sample design and procedures

The study was conducted in Sekota Woreda, one of the seven woredas found in the administrative zone. Detailed information on household demographic characteristics, household assets, source of credit other than ACSI, land characteristics, livestock holding, decision making pattern in the house hold, factors that affect women's participating in micro-finance and related data were collected by interviewing sample women's. In this study two-stage sample design was adopted for the survey. The first stage is the selection of sample kebeles and the second is the selection of sample respondents from selected kebeles. Sekota ACSI branch is operating in 16 kebeles in the woreda. Using simple random sampling method 5 kebeles were selected. The selection of respondents was conducted in simple random sampling method. The quantitative data was collected mainly from a sample of 209 women micro finance participants and 100 non participants in the loan programme by simple random sampling method.

Therefore, the survey data is a cross-sectional type data. The total population of the study consist of **11,786 women** in 16 Kebeles, out of this 825 women are participants, and the rest women are non-participants on MFI in these sixteen Kebeles.

3.3. Econometric model: logistic regression

The methodology that will be employed to assess the factors that determine rural women's to participate in micro finances and their decision making power at house hold income level will utilize different approaches.

When the explanatory variable(s) is (are) binary one can represent them as dummy variables and proceed to multiple regression analysis. However, the application of the linear regression model is more complex when the dependent variable is binary (Pindyck and Rubinfeld, 1981). A binary choice model assumes that individuals are faced with a choice between two alternatives. Thus, one purpose of a qualitative choice with a given set of attributes will make a choice of alternatives (participate or not participate).

The empirical analysis of the study will be conducted using descriptive statistics and econometric model (regression) analysis.

Result discussion based on descriptive statistics will be made by using measures of dispersion like mean, standard deviation, variance and the like. In addition, ratios percentages, and tables will be used to describe the result. While the *logit* model will be applied in determining the factors that women's to participate in microfinance programme and the decision making of a woman in the house holds income. Then after, the factors that determine a rural woman's participation in micro –finance are identified and logistic regression is employed to show the functional relationship of these factors with the participation decision and the decision making ability of women at house hold income.

As pointed out by Hosmer and Lemeshow (1989), the logistic distribution (logit) has certain advantages over the others in that the analysis of dichotomous outcome variable is externally flexible and relatively simple from mathematical point of view and lends itself to a meaningful interpretation.

As already noted, the purpose of this study is to analyze which, how and how many the explanatory variables, able to determine the dependent variables. The dependent variables in this case are dummy variables, which takes a value of zero or one depending on whether or not a woman is micro finance participant or not and whether a woman has or has not role in the house hold decision making of income. However, the independent variables are both continuous and dummy.

As pointed out in Gujarati (1995), also logit or probit models are widely applied to assess micro -finance participation determinants for limited dependent variables. Despite this, Green (2003) argues that although both models results with similar outputs, the logit model is easier in estimation. Hence binary logit model was employed in this study to analyze the factors that determine the levels of rural women participation in micro finance or not and women's decision making role in the house hold income.

3.3.1. Model specification

Following Green (2003) and Gujarati (1995) the logit model for the determinants of participation of women in micro-finance can be specified as below:

The dependent variable in this case is a dummy variable, which takes a value 0 or 1 depending on whether or not a woman is participating or not, and whether a woman has role in house hold decision making of income or not. However, the independent variables are both continuous and dummy as said above. According to Pindyck and Rubinfeld (1981) the cumulative logistic probability function is specified as;

$$p_i = F(Z_i) = \frac{1}{1 + e^{-(\alpha + \sum_{i=1}^M \beta_i \chi_i)}} \quad (1)$$

Where: p_i represents the probability of that i^{th} rural woman will make a certain decision (in this case MF participant or not), and that a certain woman have role in decision of house hold income or not given explanatory variables (χ_i);

e represents the base of natural logarithms

χ_i represents the explanatory variables that determine decision to participate in micro-finance credit programme and decision on house hold income

M_i represents the number of explanatory variables, $i = 1, 2, 3 \dots, m$, and

α_i And β_i are parameters to be estimated.

Coefficient interpretation will be understandable if the logistic model once written in terms of the odds and log of odds (Hosmer and Lemeshow, 1989). The odds ratio is simply the ratio of the probability of being micro finance participant (p_i) to the probability that she would be non participant in micro finance ($1 - p_i$) and also for the second dependent variable the odds ratio is the ratio of having role in decision of income (p_i) to the probability of have no role in decision of house hold income ($1 - p_i$). But p_i is non-linear not only in χ_i but also in α_i and β_i which creates an estimation problem. So, we cannot use the familiar OLS procedure to estimate the parameters.

$$1 - p_i = \frac{1}{1 + e^{z_i}} \quad (2)$$

Therefore the odds ratio become

$$\frac{p_i}{1-p_i} = \frac{1+e^{z_i}}{1+e^{-z_i}} = e^{z_i} \quad (3)$$

or

$$\frac{p_i}{1-p_i} = \frac{1+e^{z_i}}{1+e^{-z_i}} = e^{\left(\alpha + \sum_{i=1}^m \beta_i \chi_i\right)} \quad (4)$$

And hence for simplification making linear of the above equation is mandatory, and then to get linearity, we make the natural logarithms of odds ratio equation (4) which results in the logit as indicated below

$$z_i = \ln\left(\frac{p_i}{1-p_i}\right) = \alpha + \beta_1 \chi_1 + \beta_2 \chi_2 + \beta_3 \chi_3 + \beta_4 \chi_4 + \dots + \beta_m \chi_m \quad (5)$$

From this it is understood that As p goes from 0 to 1, the logit goes from $-\infty$ to ∞ , that is although the probabilities lie between 0 and 1, the logits are not so bounded (Gujarati, 1995)

Following this when we take the disturbance term μ_i into account, the logit model becomes as follows;

$$z_i = \alpha + \sum_{i=1}^m \beta_i \chi_i + \mu_i \quad (6)$$

The logit model is based on the logistical curve, for all values of the regressors. This is more realistic pattern of change in the probability compared to other qualitative dependent variable models like the probit for two reasons.

- (1) The odd ratio, which is a measure of the strength and direction of relationship between two variables, has a special property of not requiring variables to be normally distributed.
- (2) A mathematical transformation of the odd ratio is the logit model. This mathematical transformation removes the problem of asymmetry existing in the odds ratio and in turn makes this a superior method (Peng et al, 2005) and the model was used on the assessment of determinants that affect the decision to participate in microfinance credit programme and their decision making in the house hold income.

In addition to this, as said and explained above, to determine factors that influence women's decision making in a house hold income the researcher uses logit model procedure. Here the dependent variable is decision making on the house hold income which is dichotomous (have role in decision making of the house hold income=1 or not=0).

And then before proceed to regression, checking of multi co linearity association of continuous and dummy variable is applied. The variance inflation factor is used to check multi co linearity of continuous variables and contingency coefficient was used for checking of multi co linearity of dummy variables. As the value of VIF increases it indicates as there is multi collinearity of the explanatory variables. According to (Gujarati, 2003), as a rule of thumb if the VIF is greater than 10 (this will happen if R^2 is greater than 0.80) the variable is said to be highly collinear.

According to this the variance inflation factor of the explanatory variables $= 1/(1-R^2)$ ----- (7)

Whereas X_k is regressed on other explanatory variables, R^2 is the coefficient of determination. As it has been said a value inflation factor greater than 10 is the signal of strong multi collinearity (Gujarati, 1995). Then after contingency coefficient is used to check the existence of multicollinearity in the discrete variables.. And this measure shows the relationship between the row and column variables of a cross tabulation. It indicates that if the value is 0 it shows as there is no relation between column and row variables. But if the value approaches to 1 it indicates as there is association between among the variables.

The contingency coefficient can be computed by;

$$C = \sqrt{\frac{\chi^2}{N + \chi^2}} \text{-----}(7)$$

Where, C= coefficient of contingency, χ^2 = a Chi-square random variable and n = total sample size. And if C is greater than =0.75 the variable are said to be collinear.

3.3.2. Definitions of variables and working hypothesis for the logit

Dependent variable

The dependent variable for the logit analysis is of dichotomous nature representing the observed status of MFIs participant respondent. It is represented in the model by 1 for participant and 0 for non-participant. Whereas the for the second dependent variable i.e the decision making analysis of a woman which is binary nature representing the observed 'decision making status of the woman in the house hold's income' which represents 1= if the woman has role in house hold income decision, 0=if she has no role. Here a number of independent variables will be hypothesized to influence the dependent variable.

Independent variables

A range of demographic and socio-economic variables that are expected to influence women's decision to participate in micro finance programme and factors that determine women's involvement in house hold decision making are selected and defined below.

1. **Age of the household head** (hage) and (hage²): is a continuous variable. According to Ferdissa's (2012) and Biruk's(2010) studies an individual's physical weakness of a woman contributes to poverty in several ways ; through unable to cultivate the available land and other rented land or work long hours and this leads to be paid a lower wage ,which becomes a lower income to feed the house hold members and this makes difficult to obtain loans due to lack of skill .In addition Biruk(2010) used to see the effect of age increment(the experience obtained through life) on participation in micro finance in his research using probit econometric model . Due these research papers age and age square are expected to have positive and negative effects on women's decision to participate in micro- financing programmes respectively. whereas research conducted by Haimanot(2007) indicates as age of women increases ,decision making on the households large sales increases .In addition to this as age of the wife increase men have more trust on their partner. And hence in light of this it is hypothesized that as the age of the house hold increases the decision of the house hold income will be made by the couples together and it is hypothesized as positively related to house hold income decision.
2. **Sex of household head** (Hhhead): This is dummy variable 1=if the house head is the woman herself, 0= otherwise. In case of women who are the head of the house hold, participation of women on micro finance is expected to be positive, otherwise the

participation in micro finance will be negative. Due to cultural impediments and the like problems where male dominance is common in our country for married woman the decision of house hold income is expected to be done by men, but for female headed house hold, income decision of the house hold is expected to be done by the woman herself. From this premises it is possible to say that the probability of the woman's involvement in the house hold's income is positive as the woman is the house head, Whereas it is negative as the head is the husband. The same is true for the decision to participate in micro finance loan programme for female headed households where the probability to participation is high if the house hold is the woman herself.

3. **The respondent's level of education (Educ):** It is a continuous categorical variable in terms of women that participate in micro-finance programme. Illiterate=0, for read and write=1, g 1-6=2, g 7-8=3, g 9-12=4, Women who have educational attainment will have higher awareness on the possible advantages of micro finance participation to engage in income generating off farm activities and widen their livelihood means's. In addition to this educational attainment by women is expected to have more exposure to farming technologies and information. Furthermore respondents who attain education will have high bargaining power on the decision of the house hold income. From this it is possible to say that women who are literate are expected to being participant in micro finance programme and will have high (positive) involvement in the decision of the house hold income.
4. **Household Size (HHsize):** This is the total number of household members living together. The larger the number of household members in the household, the higher will be the probability of being participant in micro-finance credit programme to widen their source of income and livelihood. Therefore, household size is hypothesized to have positive relation with the participation on microfinance.
5. **Total land holding (TLHIT):** This is a continuous variable. It is the total land size which is cultivated by the respondents given in timade. Hence households who have large number of cultivated land are expected to being participant in micro-finance in order to purchase an agricultural input that helps them increase the agricultural yields from farming. Furthermore respondents who have large cultivated land are expected to get high agricultural yield per year. During agricultural production respondents participation even in heavy load work activity is high, as such the participation in decision making in the house income is also expected to be

high as well .And hence it is hypothesised that respondents land holding will have positive effect in the respondents decision making in the house holds income and participation in micro finance programme as well.

6. **Livestock holding (LHCIC)**-This is the total number of animals that the household is possessing. Livestock is considered as asset which is liquid and a security against crop failure which is measured in calculated cash. As total livestock possession of the household increases, the owner of the livestock is regarded as wealthy and respected in the rural parts of the woreda, and hence households who have increased number of livestock will not participate in micro-financing programme. In addition to this, in the rural communities of the study area male partners who have increased number of livestock , give due attention for their cattle raring and farm activities, and the house hold management is left for women's and other house hold members. From this it is possible to say that this variable will have positive correlation on decision of house hold income by women partners and will be negatively correlated with micro finance participation..
7. **Distance from the main market (Dfm)**: This is a continuous variable. If the main market is far away from households' residence, they may lack information regarding the market price and quantity which makes the worse off. Hence women's nearer to the main Market towns are more likely to participate in micro finance programme.
8. **previous Access and experience in using to credit(PATC)**;This is a dummy variable that takes a value 1 if the respondent has previous experience in using credit from other financing institution 0 other wise. Women who have previous access and experience on credit use are expected to participate in micro-financing programmes as they understand the benefit of participating in micro-financing credit programme. Households who have previous access of credit will have knowledge of how to manage , utilize the credit gained from financing institution and will also have good experience on how to repay the loan on time from experience, especially women are good at managing house hold income. Form this premise it is possible to say that this variable to have positive effect on participation of microfinance and decision on the house hold income.
9. **Distance from Micro-finance Institution(Dmfi)** ;which is a continuous variable and it refers to the distance in kilometres that women's must travel from their residences to MFIs to get financial(credit) services from the institutions .The results of the probit model by Desale(2008) showed that of women's who live in a distant

place from MFI are associated with the probability of participation in MFIs negatively and significantly. Women's who are nearby the MFIs have a location advantage and can use the services and products now and then from the institutions easily and frequently than those who live in more distant locations. And hence this variable is hypothesized to influence the decision of women to participate in micro finance negatively and significantly.

10. **Annual income earning from farming(AIEFF)** ;It is a continuous variable that indicates the total amount of income earned from farming and related activities.(wener and Earnst,2003) indicates as individuals income increases the probability of participating in micro-finance increases, that initiate individuals to use agricultural inputs and get confidence for repayment of loans .In addition to this as house hold income obtained from farming activity is increased, the respondent's decision making in the house holds income will also be increased.. From this it is possible to say that increased income from farming will have positive correlation with the decision to participate on micro-finance programme and decision to involve house hold income.
11. **Annual income earning from off farm (Aaincoff)**: This is a continuous variable that indicates the total amount of annual income earnings from off –farm activities. Women's that participate and earn income from off farm activities will have high demand to participate in micro financing programme just to expand their existing business. Further more if respondent's involvement in generating off farm income is diversified, it is expected that the earning will be high, as such the respondents participation in the house holds income will also be high. And hence it possible to say that this variable will positively significant with respondent's involvement in house hold income decision making and decision to participate in micro finance loan programme.
12. **Number of dependents (Ned)**. This is a continuous variable which indicates the number of dependents on household's income. In this study number of dependents include the number of children and other relatives and older ones (within the household and Outside) who depend on a given household for their livelihood and their age is below 14 and above 64 who cannot participate in any job activity. It is expected that the higher the number of dependents, the greater the fear of diverting loan to meet household obligations and the less the participation in the micro-credit

program. And this variable is expected to negatively significant with women's participation in micro finance loan programme.

13. **Respondents perception on group collateral (Rpge)**, this is a dummy variable and it takes 1 if it is appropriate; and 2 if not. As group collateral lending system is appropriate women's micro finance participation will be high whereas, as the group collateral lending system is not appropriate women's will not participate in micro finance loan programme.
14. **Source of credit other than ACSI (ScoACSI)**, if the woman has other source of credit other than ACSI=1; if not= 0. Women's who have other source of credit other than ACSI are expected to have less demand to participate in micro-financing loan programme. And hence it is hypothesized as to have negative correlation with women's micro finance participation.
15. **Value of available assets (AHHCIC)**; this is a continuous variable that indicates the value of available assets (Birr) calculate in cash. In this study, the higher the value of available assets is believed to decrease participation rate and hence will have a negative influence.
16. **Availability of saving account (Sacc)**: which is a dummy variable, 1 if the respondent has saving account, 0= otherwise. Respondents who have saving account are expected to participate in loan programme. This is due to the fact that women's that have saving account are expected to have holistic knowledge/awareness relation to saving and credit issues, and hence due to the probability of knowledge that they may have the expected probability of participation and involvement in house hold decision making of income will significantly positive.
17. **Market for products and services (Maps)**, it is a dummy variable, if the household products and services have market (demand)= 1, if not 0. Normally, the higher the demand for products and services, it is believed that the higher the participation in the micro-credit program and hence, will have a positive influence on program participation.
18. **Perception on interest rate (peinr)**: Is a dummy variable which takes 1= if the respondent perceives the interest rate laid by the MFIs as high ,0= otherwise .It is expected that if the interest rate laid by the financing institution is low ,women's will have high demand to participate in credit programme, where as if the interest rate is high women's will not have any demand to participate in credit programme.

19. **Access to Irrigation (Irriacs):** Investing in irrigation requires energy and capital. Respondents who have irrigation access are expected to have high demand to participate in credit programme, because, they will have confidence for the repayment of the loan even. And hence having access of irrigation positively correlated with MFIs participation.
20. **Access to support (Asup);** It is a dummy variable it takes 1= if there is access of support given 0= otherwise. Different supports like training, technical, material and financial support will give confidence for the respondents and will provide holistic understanding on the working environment which enables them get knowledge to engaged in income generating activities and expand their existing business. Further more different supports(trainings) will empower women, economically and morally that motivates them to be confidential and participate in house hold decision making process And hence this variable is hypothesized as to positively correlated with women's decision to participate in micro finance loan programme as well as involvement in house hold income decision making process.
21. **Time spent in house hold work (Tshhw).** This is the total time devoted by the woman in doing homemade activities in the house. And it is a continuous variable. As time spent in doing homemade activities increase the probability of participating in micro finance programme is expected to decrease as participation requires time to generate yet another income and be profitable, and even to repay the loan on time by engaging in different income generating activities. Hence this variable is expected to have negative relationship with the probability of women's participation in MF loan programme and will positively significant with house hold income decision making process.
22. **Being client of ACSI (PART) .** Respondents who are client's of the ACSI MFI are expected to have engaged in income generating activity, as such ,as the respondent is engaged in income generating activity, she will have the right to participate more actively in the house hold's decision making process.. And hence it is hypothesized that being client of ACSI is expected to positively correlate with decision making ability in the house holds income.
23. **Involvement in social and community leadership (ISA).** This is a continuous variable. 1=involve, 0=do not involve. Women's who participate in social and community structures as a member and as leader are expected to have acceptance not

only by the community but also even in their home. And hence involvement in social and community leadership will be positively significant with women's participation in house hold income decision.

Table: 3.1. Summary of the variables

No.	Variables	Variable type	Code of the variable	Definition
Dependent Variables				
	MF participation	dummy	PART	1=if participated 0=for not participating
	Decision on house hold income	dummy	Dhhinc	1=I have role 0=I have no role
Explanatory variables				
1	Age of the respondent	Continuous	Age	Age of the woman in number completed years
2	Sex of the house hold head	dummy	Hhhead	1=if woman.0=other wise
3	Respondents Level of education	continuous	Educ	illiterate=1, read and write=2, g 1-6=3, g 7-8=4, g 9-12=5 above g 12,
4	Occupation	continuous	Occu	1=farmer,2=merchant, 3=student,
5	Marital status	continuous	Msatus	1=my self,2=married,3=divorced,4=widowed
6	Number of dependents	continuous	Ned	Number of peoples whose age below 14 and above 64
7	Previous experience on credit use	dummy	PATC	Have experience=1,0=have no experience
8	Source of credit other than ACSI	dummy	ScoACSI	1=yes, 0=no
9	House hold size	continuous	HHsize	Members of people living together
10	Total land holding in timade	continuous	TLHIT	Total land owned by the house hold
11	Live stock holding calculated incash	continuous	LHCIC	The cash converted live stock holding of the hh
12	Distance from main market	Continuous	Dfm	The length inn km
13	Respondents perception on group collateral	dummy	Rpgc	1=appropriate,0=not appropriate
14	Value of available asset	continuous	AHHCIC	The whole asset changed in to cash
15	Availability of saving account	dummy	Sacc	1=have saving account 0=have no
16	Distance from micro-	continuous	Dmfi	The length in km to be travelled

	finance institution			
17	Market for products and services	dummy	Maps	1=access of market 0=no access
18	Perception on interest rate	dummy	Peinr	1=high,0=low
19	Annual income earning from farming	Continuous	AIEFF	The total annual income earning from farming activity
20	Annual income earning from off farm activities	continuous	Aaincoff	Income earning from off farm activities
21	Access to irrigation	dummy	Irigacc	1=have access,0= no access
22	Ownership of farm land	dummy	HfaLa	1= have farm,0= no farm land
23	Access of support	dummy	Asup	Access of support include financial, technical, capacity building and the like support 1=avail access 0=no access
24	Time spent on the house hold work	Continuous	Tshhw	
25	Involvement in social and community leadership	dummy	ISA	1=involve 0=do not involve

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter presents the results of the study and discusses them. The section deals with discussion of the descriptive part and the results of the econometric regression model. It analyzes each objectives of the paper using different methodology. Descriptive analysis is used to present the socio demographic characteristics of the respondents and other comparing variables of participants and non participants included in the study. Logit model is used to discuss the potential determinants of micro finance participation of women and their decision on the house hold income.

4.1. Respondents demographic characteristics

4.1.1 Age of the respondents

From the total of 309 sample respondents, 209(67.64%) participants and 100(32.36%) non-participants were interviewed for the study. The result of the study shows that from the total respondents 34(11%) of the respondents are within the age range of 20 to 30 years, 166(53.72%) are between 31 to 40 years with high frequency, and the rest 95 (30.74%), 13(4.21%), 1(0.32%) are in the age group of 41-50, 51-60, and above 60 years respectively. The minimum and maximum age of the respondents is 25 and 61 years respectively. So, higher proportion of participants and non participants are also found in the age group of 31 to 40 years old, of which participants and non participants 113(54.07%) and 53(53) respectively followed by 67(32.06%) of participants and 28(28%) non participants that found in the age group of 41 to 50 years. From this finding it is possible to conclude that the distribution is positively skewed. That is, more participants and non participants are at the age group with strong desire to work hard and with optimistic future

Table (4.1) Age group of the respondents

Age group	Participant		Non –participant		Total	
	Frequency	%	Frequency	%	Frequency	%
20--30	19	15	15	15	34	11
31—40	113	54.07	53	53	166	53.72
41—50	67	32.06	28	28	95	30.74
51----60	10	4.78	3	3	13	4.21
60 and above	0	0.00	1	1	1	0.32
Total	209	100	100	100	309	100

Source: own survey, 2013

4.1.2 Marital status of respondents

With regard to the marital status of the respondents is concerned in Table 4.2, it shows that, from the total sample respondents about 129(61.72%) of participants and 64(64%) of non-participants are married who are male headed. 14(6.7%) ,52(24.88%), 14(6.7%) of participants are single, divorced and widowed and female headed respectively. While from total non-participant respondents 5(5%), 24(24%), 7(7%) are single, divorced and widowed who are female headed respectively. From this it is possible to concluded that both in participant and non-participant group married women's are included in the study to look the main determinants of women's participation in MFIs and their decision making situation in their house hold income.

Table 4.2 Distribution of respondents by marital status

Marital status	Participant		Non-participant		Total	
	Female headed	Male headed	Female headed	Male headed	Number	%
Married	0(0.00)	129(61.72%)	0(0.00%)	64(64%)	193	62.46
Single	14(6.7%)	0(0.00%)	5(5%)	0(0.00%)	19	6.15
Divorced	52(24.88%)	0(0.00%)	24(24%)	0(0.00%)	76	24.6
Widowed	14(6.7%)	0(0.00%)	7(7%)	0(0.00%)	21	6.79
Total	80(38.28%)	129(61.72%)	36(36%)	64(64%)	309	100

Source: own survey, 2013

4.1.3 Educational status of the respondents

Education is expected to play an important role in increasing human potential. As it can be seen in the table below, from the total sample non participants, 70(70%) are illiterate, 18(18%) can read and write whereas 6(6%) are in the range of grade 1-6, 5(5%) have completed from grade 7 up to 8, only one respondent is in the range of grade 9-12 with percentage of 1(1%). From the total sample participants, 112 (53.59%) are illiterate and 72(34.4%) have the skill of reading and writing, 22(10.53%) are in the range of grade 1-6, only 3(1.44%) are in the range of grade 9-12. This implies that both in participant and non-participant groups, most of the sample respondents are illiterate ones. And this indicates as there be comprehensive adult education scaled up to all kebeles and peoples. As education is the back bone for any activity, especially for women its advantage is beyond our expectation.

Table (4.3) Sample Respondents Level of education

Level of education	Participant		Non-participant		chi2	Total	
	Frequen cy	%	Frequency	%	20.3030	Frequen cy	%
Illiterate	112	53.59	70	70		181	58.77
Read and write	72	34.49	18	18		90	29.22
Grade 1-6	22	10.53	6	6		28	9.09
Grade 7-8	0		5	5		5	1.62
Grade 9-12	3	1.44	1	1		4	1.30
Total	209	100	100	100			100

Source: own survey, 2013

4.2 Respondents socio-economic characteristics

4.2.1 Participants source of livelihood

As it can be seen in the table below women participants engaged in different livelihood activities. Of those farming, micro business trade, homemade drinks, fire wood selling, daily labours are some of those activities that they engaged in . Participants engaged in the above livelihood activities with a frequency of 60(28.71%), 20(9.57%), 48(22.97%), 21(10.05%), 20(19.14%), 40(9.57%) respectively. From this result it can be concluded that above 60(28.7%) women participants have engaged in micro-business livelihood activities in addition to farming. Participants that engaged in farming have one more source of livelihood.

Table (4.4) Respondents source of livelihood

Source of livelihood	Frequency	Percent
Farming	60	28.71
Micro business	20	9.57
Homemade drinks	48	22.97
Fire wood selling	21	10.05
Daily labourer	20	19.14
Farming and micro business	40	9.57
Total	209	100

Source: own survey 2001

4.2.2 Total land holding of respondents

Land is the basic asset and source of livelihood for the rural community. The average land holdings of participants are 6.49 timade and the average land holding of non- participants equals to 5.54 timade. The total respondents land holding is with a minimum of 0 to a maximum of 9 timade. This finding indicate that as average land holding coincides with the national average land holding which is indicated as 1.2ha (CSA, 2008) of Ferdissa's(2012) study findings. From this it is possible to understand that participants have on average, a larger area of land 0.95 timade than non-participants have. furthermore it indicates as the mean difference with 0.95 timade which shows as there is a significant difference between participant and non-participant women's regarding to the total land holding size. From this it is possible to conclude that participant women's have larger land holding than the non-participants. The main reason for this is the rented land cultivated by programme participants.

Table (4.5): Summary of descriptive statistics (continuous variables)

Variables	Participant(N=209)		Non participant(N=100)		Total(N=309)		Min	Max
	Mean	Sd	Mean	Sd	Mean	Sd		
Age	38.49	6.07	37.13	6.28	38.05	6.17	25	61
HHsize	5.64	1.760086	5.65	1.47966	5.640777	1.672084	1	11
TLHIT	6.49	1.125231	5.537634	.7879409	3.508475	1.02971	0	9
AHHCIC	28548.41	15820.65	27695.56	37509.45	29944.18	24166.15	2500	356780
LHCIC	37251.3	50167.72	29533.71	25510.47	7717.593	43750.04	800	62300
Dmfi	26.79904	11.81987	28.76	13.08721	27.43366	12.2575	1	65
Ned	3.747368	1.359477	5.3	1.277753	3.964286	1.331903	1	7

Source: own survey, 2013

4.2.3 Respondents livestock ownership calculated in cash

Livestock is the most important asset and an index of wealth, prestige in rural community. The study area was –Himra zone specifically sekota woreda is known by both mixed farming and rearing of animals. All the sample women participants and non-participants reared livestock, which consisted of cattle, small ruminants, bull, donkey, calves, back animals and poultries. In this study respondents' livestock holding has been changed in to cash based on the current price of the woreda. The mean calculated in cash livestock holding of participants is 37251.3 birr where as for non-participants it equals to 29533.71 birr. The mean difference further shows that as there is significant difference between participant women's and non-participant ones on the basis of their total livestock holding calculated in cash. From this finding it is possible to say that MFIs participant women's have large number of livestock than non-participants in the study area. This is due to the fact that, as they get the loan women participants immediately bought livestock and dedicate the loan on activity that can generate yet another income.

4.2.4 Respondents asset holding calculated in cash

Questions to analyze the asset holdings of the respondents were prepared and asked. Asset of respondents include house ownership, number of houses owned which is calculated in

cash, house hold's fixed and mobile materials used by the family members and the like. The survey result shows that the average asset holding of participants is 28548.41 birr, and 27695.56 birr of non-participants that calculated in cash. The minimum and maximum calculated asset holdings of the respondents is 2500 and 35,6780 birr respectively. It is possible to see that the asset holding of participants converted in to cash is greater than that of non-participants by 852.85 birr. Thus, it is possible to say that participant women's have more asset than non-participants in the study area.

4.2.5 Respondents number of dependents

The average number of dependents for the participants and non-participants is 3.75 and 5.3 respectively. And hence it is possible to look that non-participants are not supporting themselves but also more inactive family members than the participant respondents whose ages below 14 and above 64 years old who can't involve in any source of livelihood job activities. The mean difference between the two respondents is (0.25). Therefore, it can be concluded that non-participants women respondents carry more burden than the participant ones and respondents with small number of dependents have high probability of participating in MF programmes than their counter part.

4.2.6 Distance from micro finance institutions

The average distance to be travelled to the micro finance institution for participant women respondents is 26.799 km and the average distance of MFI to be travelled for non-participant ones is 28.76 kms. The result also indicates that the minimum and maximum km to be travelled from the total respondent's residence to the place where the institution is found indicates as it is 6 and 65 km far respectively. And hence it can be concluded that respondents who are in near of the institution have location advantage and are more likely to participate in MFI loan programme than those live in distant place.

Table (4.6) Selected socio economic and institutional discrete variables

Variable	Non participant		Participant		chi2	Total	
	Frequency	Percent	Frequency	Percent		Frequency	Perecent
Hhhead					0.3564		
Other wise	66	66	145	69.38		211	68.28
Female headed	34	34	64	30.62		98	31.72
SCOACSI					2.6868		
No	47	47	119	56.94		166	53.72
Yes	53	53	90	43.06		143	46.28
PATC					1.1076		
No	47	47	85	40.67		132	42.72
Yes	53	53	124	59.33		177	57.28
Sacc					148.47		
No	84	84	27	12.92		111	35.92
Yes	16	16	182	87.08		198	64.08
PRgc					51.65		
Appropriate	0	0	80	38.28		80	25.89
Not appropriate	100	100	129	61.72		229	74.11
Pentr					0.4800		
Low	0	0	1	0.48		1	0.32
High	100	100	208	99.52		308	99.68
Irrigacc					1.94		
Have no	77	77	145	69.38		222	71.84
Have	23	23	64	30.62		87	28.16
Maps					115.85		
No market	47	47	0	00		47	15.21
Market access	53	53	209	100		262	84.79
Dhhinc					8.66		
Have no role	42	42	58	27.75		100	32.36
Have role	57	57	151	72.25		208	67.3

Source: own survey, 2013

The survey result depicts that 64(30.62%) of participants and 34(34%) of non-participants included in the study are female headed and the rest are headed by male partners.

It is observed that from the total sample respondents 90(43.06%) participants and 53(53%) non participants have replied as they have sources of credit other than ACSI. From this

finding it can be understood that the majority of non participants have other alternative sources of credit, which they get loan from local money lenders, relatives, and friends. And this is one factor to assess the determinants of women's participation in micro finance loan programme. Furthermore it indicates as there should be strategy to be designed to save that group of peoples from local money lenders and others that laid high interest rate. Papers written by Germidis, Kessler and Maghir (1991 cited in sisay(2008) justifies that delivery of financial services to the rural poor through regulated institutions saves the poor especially women from money lenders who often charge high interest rates' assures this fact.

Previous experience and knowledge about credit use is essential especially for women's. The experience on credit use, rules and regulation of the institution, helps them for increased participation; and hence as it can be seen in the above table 177(57.28%) of the total respondents have previous experience in using credit from different sources. And the rest 132(42.72%) have no previous experience in using credit. Further more from the participants 124(59.33%) of them reported as they have previous access and experience in credit use. From this it is possible to conclude that having experience in using credit increases the probability of participating in MFI loan program. This is due to the reality that women that know the advantage of taking loan would highly participate in credit program than that lack experience in using credit.

It is well known that saving helps for capital formation, participation, and it mainly helps in case of emergency and investment. With regard to the saving pattern of non-participants and participants is concerned 84(84%) of non-participants and 27(12.92%) of participants reported as they have no compulsory as well as voluntary saving type, and 16(16%) of non-participants and 182(87.08%) of participants reported as they have saving account. This implies that participating in MF programmes makes to have additional capital to engage in income generating activities and even to participate in MFI accordingly.

Access of market for products and services is one important determinant for women respondents to participate or not to participate in micro finance loan programme. The study result shows that 47(47%) of non-participants reported as there is no access of market for products and services where as 53(53%) of non-participants and 209(100%) participants have reported as there is no problem of market for any products and services supplied. And even they reported as demand is much higher than the supply of products and services in the study area.

Women's ability of making decision in the house hold's holistic issues is vital for empowering women in particular and reducing poverty in general. As decision making of women in the house holds income is concerned , the study revealed that 42(42%) of non-participant women's and 58(27.75%) of participant women's reported as they have no role in deciding on the households income , where as 57(57%) non-participant women's and 151(72.25%) participant women's report as they have a great role in deciding of the households income and as well as other issues concerning the house hold .And hence it possible to say that there is a significant difference between participants and non-participants house hold income decision making. A study conducted by Haimanot(2007) on economic empowerment of women revealed that women's that participate in micro-finance programme empowered more economically in house hold decision making than non – participant ones. From this we can concluded that women participants have more assertiveness and a larger decision making role in using house hold income efficiently and effectively than non-participants.

4.2.7 Annual income earning from off farm activities

Out of the total ACSI micro finance participants 197(94.15%) of women's engaged in and earn income from off farm activities in addition to the income earned from farm activity. The rest participants in the sample size 12(5.74%) did not participate in off farm activities and their source of income is only from farming.

It is possible to see and compare the annual income earnings from off farm activities of participants and non-participants that, the annual off farm income earning is below 3000 and above of Birr 9000. As it can be seen 8(3.8%) and 21(21%) of participants and non participants earn an annual off farm income less than 3000 respectively. On the other hand 18(8.6%), 16(7.6%), 21(10.04%) of participants and 12(12%), 4(4%) and 2(2%) of non- participants earn an annual off farm income which ranges from 4001-5000, 5001-6000 and 6001 -7000 income group respectively. In addition to this 15(7.18%) of participants earn an income of 9000 and above but none of non participants earn in this income group. This implies the percentage of participants who earn an off farm income is much greater than that of non-participants income. And hence it is possible to say that women participants income has increased due to the fact that they engaged in income generating activities than their counter parts . To conclude, this finding indicates the increased income comes from business that they operate through participating in micro financing loan programme.

And hence overall enhancement on off farm average yearly income is much more pronounced in participants than non-participants.

Table .7. Annual income earning from off farm

Annual income from off farm	Participant(N=209)		Non- participant(N=100)		Total	
	frequency	%	Frequency	%	Frequency	%
<3000	8	3.8	21	21	29	9.35
3001-4000	22	10.53	13	13	35	11.33
4001-5000	18	8.6	12	12	30	9.7
5001-6000	16	7.6	4	4	20	6.5
6001-7000	21	10.04	2	2	23	7.44
7001-8000	11	5.3	2	2	13	4.2
8001-9000	9	4.3	1	1	10	3.24
Above 9000	15	7.18	0	0	15	4.85
Total	120	57.4	55	55	175	56.64

source: own survey,2013

4.2.8 Pattern of over all income

Out of the total sample size all of them , 100 (100%) of the non-participants and 209(100%) participants have been replied on the pattern of their overall income for the last four consecutive years . From the participants group 11(5.3%), 103(49.28%) of women respondents have replied as their income has been greatly increased and increased respectively. And this motivates them, to purchase agricultural inputs and make the living condition of the house hold smoother. On the other hand, 39(18.66%) and 36(17.22%) Of

sampled women participants have reported as their income decreased and stayed the same respectively. With regard to non-participants case, who reported the increment in their level of income, are 5(5%) and 31(31%) that reported as their income has increased greatly and increased respectively at the time of improved good agricultural season and income gained from petty trade and the like from off farm work activities. In addition to this Out of the sample non participants 6(6%), 35(35%), 23(23%) of them reported as their income has been decreased greatly, decreased and stayed the same due to many natural and manmade factors, of those potential factors are unable to engaged in off farm activities, unable to implement the extension service provided by development agents, illness, lack of credit, and the like reasons were the main problems for their decreased in house hold income. From this finding it is possible to say that the responsiveness achieved in relating with income from program participants shows a clear indication that microfinance credit has enabled the woman participants to generate disposable and manage their house hold income in a way that could be spent on better facilities which could improve the living standard of the households concerned

Table (4.8) pattern of house hold income

House hold income in the last 4 years	Participant		Non-participant		Chi ²	Total	
	Number	Perc ent	Number	%		Number	Percent
					14.97		
Increase greatly	11	5.3	5	5		16	5.18
Increased	103	49.2	31	31		134	43.37
		8					
Stayed the same	36	17.2	23	23		59	19
		2					
Decreased	39	18.6	35	35		74	23.95
		6					
Decreased greatly	20	9.56	6	6		26	8.4
Total	209	100	100	100%		309	1005
		%					

Source: own survey, 2013

4.2.9 Women's participation in decision making at household level

Table (4.9) participation of women in decision making

Description	Participant			Non-participant			Total	
	Husband alone	Herself	We together	Husband Alone	Herself	We together	Number	%
Decision on loan use	53(25.36%)	80(38.3%)	76(36.4%)	0	0	0	209	67.64
Decision on child education	43(20.6%)	80(38.3%)	86(41.14%)	36(36%)	36(36%)	28(28%)	309	100
Decision on saving	53(25.36)	80(38.3%)	76(36.36%)	0	0	0	209	100
Decision on house hold asset	13(6.22%)	80(38.3%)	116(55.5%)	6(6%)	36(36%)	58(58%)	309	100
Decision on large sale	24(10.53)	80(38.3%)	105(50.2%)	43(43%)	36(36%)	21(21%)	309	100
Decision on small sale	43(20.6%)	80(38.3%)	86(41.14%)	11(11%)	36(36%)	53(53%)	309	100
Decision on house hold expenditure	0	80(38.3%)	129(61.7%)	34(34%)	36(36%)	30(30%)	309	100
Decision on social ceremonies	0	80(38.3%)	129(61.7%)	0	36(36%)	64(64%)	309	100

Source: own surveyed, 2013

In male dominated society like our country, decision making power is given in the hands of men(Rahamato,1991).Most of the time ,women are economically dependent on their husbands which intern affects their decision making power at house hold level. Women respondents who did not participate in decision making may not know what is decided , thus there might be difficulties in subsequent implementation of the decision. The house hold being the basic unit of decision making regarding the question of production and consumption in rural Ethiopia, women participate in decision making process to a limited degree, the privilege being that of male partner(Semeneh 1999). Being said this as it can be seen in the above table that 53(25.36%) , 80(38.277%),76(36.36%) of participants make decision on loan use only by the husband, the respondent herself and by the two couples together, respectively. Whereas non participants response nothing with regard to the loan use as they are non-participants in loan programme.

As decision on child education is concerned 43(20.6%), 80(38.277%) and 86(41.14%) of women participants and 36(36%), 36(36%), 28(28%) of non-participants had reported as decision on child education is made by the husband, by the woman herself and decision made by the two couples respectively. This implies that participants have a great role in participating on child education with a number of 80(38.277%) that female headed households decide and 86 (41.14%) of participants make decision on their child education by discussing the couples together, whereas decision on child education of non-participants is made mostly by the decision of the husband.

Furthermore respondents were asked to indicate their decision making status in different household activities such as decision on large sale, decision on small sale, decision on house hold expenditure and decision on social ceremonies. Accordingly, Out of the total sample respondents, 24(10.53), 80(38.277%), 105(50.23%) of participants and 43(43%), 36(36%), 21(21%) of non-participants reported decision on large sales of the house hold like sale of ox, cow, donkey and the like is made by the husband alone, the respondent herself and the two couples together respectively. The decision made by the husband alone is much greater for non- participants than that of participants, and it is possible to say that male dominance is high for non-participants than that of participant women's; from this it is possible to see that the programme participants who are married 105(50.23%) women confirmed that they made the decisions in consultation with their husbands, and as such it was a mutual decision. On the other hand, 21(21%) non-participants who are married women replied as they participate in decision of large sales whereas most of them replied as decision is made by their husbands.

Similarly, when it is time to decide on small sales of house hold asset participant women's are better suited to make decisions than the non-participants. But 53(53%) of non participant women's have better chance and role to decide on consultation with their husbands on small house hold sales than that of participant ones.

As decision on house hold expenditure is concerned , that participants compared with non-participants indicates that majority of the participants 129(61.72%) decided the house hold expenditure in consultation with their husbands where as 30(30%) of non participant decide the households expenditure in discussion with their husbands. From these findings it is possible to say that this enhanced decision-making position of women seems to have resulted through the overall effect of the loan program which, has helped to improve the income and asset possession status of women participants within the household.

To sum up it is possible to say that this study finding is similar to the findings of Haimanot(2007) who studied on decision making of women's in large sales. Participating in micro financing loan programme has created a great role in women's decision making at house hold level and leads to a more general improvement in attitudes towards the role of women within the household and within the community in general.

4.2.10 Non participants perception about joining in ACSI

Table(5); justification for not participating in ACSI

Reason	Frequency	Percent
Due to high interest rate laid	8	2.59
The repayment system is not appropriate	22	7.12
I have other source of income	12	3.88
Participants did not bring tangible change	49	15.86
The group collateral not appropriate	6	1.94
Other reasons	3	0.97
Total	309	100.00

Source: own survey, 2013

Non-participant women's have many justification for not participating in ACSI MFI loan programme. Of those reasons 8(2.59%) of them reported as it is due to the high interest rate that they are not participating, and others which is the greatest percentage 49(15.86%) replied as participant women's have no bring tangible change in their way of life. Others around 12(3.88%) reported as they have other source of credit, other non participants also reported as the group collateral system is not appropriate,6 (1.94%), and others 3(0.97%) have reported other justification for not participating in the loan MFI service program.

4.3 Econometric result analysis

As it is already discussed, logit model was selected to identify the factors that determine women's participation in MFIs loan programme and their decision making in the household income in the study area. However, before fitting the logit model, it was important to check whether serious problem of multi collinearity and association exists among and between the potential continuous and discrete explanatory variables of the model estimation, respectively. For this purpose, variance inflation factor (VIF) and contingency coefficient were used for the continuous and discrete variables, respectively. The problem of multi co-linearity can be expressed as the violation of the assumption of covariance between variable should be equal to zero. . In this study the result showed us there is no problem of multi colinearity. Hence logit model was estimated to see the determinant factors for participation in micro finance programme in the study area. The results are presented in table in the appendix part .

Value of VIF greater than or equal to 10 is an indicator for the existence of serious problem of multi co linearity. All the hypothesized continuous explanatory variables were included in the model estimation. And hence the results obtained from the model show that the coefficients, and odd ratios of each explanatory variable on the probability of being participation of women in micro finance loan programme.

Similarly contingency coefficient was calculated for the discrete variables. Contingency Coefficient ranges between 0 and 1. Value of contingency coefficient less than 0.5 assumes weak association between the variables. As it is possible to see in the appendix part it indicates the existence of no serious association between the variables, all the possible discrete variables were included in the model.

4.3.1 Results of logit model on determinants of women's participation in micro finance loan programme

using the logit model, the results of the maximum likelihood estimation indicates that out of 23 explanatory variables which were considered in the econometric model 15 variables were found to significantly influence the probability of being participation in micro finance institutions. These are , total land holding in timade, house hold size, number of dependents, previous experience on credit use, number of houses, saving account, market for products and services, perception on interest rate, access of irrigation, access of support, distance from the main market, distance from micro-finance institutions, education level of respondents are factors that determine women's participation in micro finance loan

programme, where as the rest nine variables have no statistically significance influence on women's participation in micro finance loan programme. Those variables are age of the respondents, marital status, sex of house hold head, asset of the house hold calculated in cash, livestock holding calculated in cash, annual income earning from off farm activities, annual income earning from farming activities, age square, and fertility status of the soil were found to have no significant influence on participation of micro finance institution of women.

Table (5.1) :The maximum likelihood estimates of the logit model on the determinants of MF participation(dependent variable PART)

Variables	Estimated coefficients	Odds ratio	Z	Z> /P/
Age	0.5266182	1.693197	1.48	0.139
Mstatus	0.9408002	2.562031	1.31	0.192
Hhhead	0.7947412	2.213868	0.84	0.399
HHsize	0.8867701	2.427277	2.74	0.006*
Educ	1.376852	3.962406	3.41	0.001*
Ned	-1.969158	0.1395743	-3.85	0.000*
Nohous	2.848812	17.26725	5.26	0.000*
AHHCICI	-0.0000136	0.9999864	-0.49	0.621
LHCIC	-7.74e-06	0.9999923	-1.26	0.209
HfaLa	3.338278	28.17017	2.07	0.038**
TLHIT	4.657968	105.4217	2.78	0.005*
Aaincoff	-0.0001522	0.9998478	-1.57	0.115
AIEFF	0.0000691	1.000069	1.16	0.246
Sacc	4.626485	102.1544	4.81	0.000*
Agesqu	-0.1929589	0.8245159	-1.25	0.211
Peinr	-0.7257166	0.4839776	-1.86	0.063***
Dmfi	-0.0571481	0.9444542	-2.34	0.019**
Dfm	-0.122668	0.8845572	-3.50	0.000*
Irrigacs	-1634616	0.1950273	-1.78	0.076***
Asup	4.470446	87.39569	4.40	0.000*
Maps	3.701492	40.50768	4.65	0.000*

Tshhw	-0.8721759	0.418041	-4.68	0.000*
PATC	0.8926473	2.441585	1.69	0.091***
-constant	-4.056246		-1.21	0.227
Number of obs =307 Waldchi2(24) =101.16 Prob> chi2 =0.0000 Pseudo R2 = 0.8011 Log pseudo likelihood= -38.5425				

Source: own survey data

*, ** and *** shows significance at 1%,5% and 10% significance level , respectively.

Explanation of significant explanatory variables

In light of the above summarized model results possible explanation for each significant Explanatory variable are given consecutively as follows:

One of the determinant variables in the regression coefficient analysis is house hold size, which was found to be important variable in women's participation in micro finance loan programme The estimated parameters are positive and highly significant at 1% level of significance. This positive relationship shows that the odds ratio in favour of the probability of being to participate with increase in household size. Other things remaining equal, the odds ratio is in favour of participation that increases by a factor of 2.4272 as household size increases by one person. The possible justification is that an increase of family size led to a higher income by engaging indifferent job activity which is one factor for participation.

Number of dependents (Ned); this variable was hypothesized, as it will have a negative influence on women's participation in micro finance loan programme as the number of dependent individuals in the house holds increases. The logit model result also indicates that number of dependents is found to be negatively correlated with the dependent variable .And it is significant at 1% level of significance. Here the odds ratio is in favour of not to participate in that, being participation decrease by a unit factor of 0.14.

The possible justifications are women's who have increased number of dependents in the house hold especially number of children makes them to devote time in the house hold for caring children and do other house hold duties. And hence due to increased number of

dependents the odds ratio is in favour of participation to decrease by a factor of 0.139. And hence increased number of dependents in the house hold has negative influence on the probability of women's participation in micro finance loan programme.

Previous experience on credit use (PATC) : The logit model result shows that previous experience on credit use is statistically significant at 10% level of significance. The odd ratio revealed that experienced women's have the probability of being to participate than women's who have less experience. As previous experience in credit use increase by one unit the probability of women's being to participant increase by 2.44.

This is due to the fact that women's who have previous experience on credit use have more knowledge in how to invest the loan in order to generate yet another income and also they are more informed about the financial management and the rules and regulation of the institution more than those women's who have not previous experience on credit use. And hence as previous access and experience of credit use increases the probability of being to participate in micro finance institution increases. A study made by Atieno (2001), also agrees with the result of this study that indicates previous credit participation was a significant variable to explain the participation in both formal and informal credit markets.

Available number of houses (Nohous): The logit model indicates as this variable is positively significant at 1% level of significance. And the odd ratio revealed that as available number of houses increase by 1 unit the probability of being to participate in MF credit programmes increases by a factor of 17.26 other things being constant. Furthermore increased number of houses acts as collateral for joining MF loan programme. And hence it is possible to conclude that as the number of house increase the probability of participating in micro finance loan programme increases.

Market for products and services (Maps): is another variable which is positively correlated with women's participation with 1% significance level. This variable was hypothesized as will have positive correlation with the dependent variable. As can be seen in the above table other things remaining equal, the odds ratio is in favour of participation that increases by a factor of 40.5 as market for products and services increased by 1 unit.

Perception on interest rate (peinr): The results of the survey depicts that the variable, Perception on interest rate is negatively related and significant at 10 percent significance level with women's MF participation. Other things kept constant, the odds ratio in favour of women's participation decreased by a factor of 0.4839 as the interest rate on loan increases. The possible explanation is that interest rate is the vital factor for women's

participation in MFIs, as the interest rate becomes low they have the probability of benefiting from the loan that they take by using efficient loan use mechanism, whereas, as the interest rate becomes high, the cost that they incur and the money that they repay increases which makes participants to lose a lot.

Access to Irrigation (Irrigacs): It was hypothesized that access to irrigation will have positive relationship with women's participation in MF loan programme, this is because of the fact that those respondents who have irrigation access are familiar and clients of MFI to get loan. The logit model of this study shows access of irrigation has a significant effect at (10%). And it is negatively related with women's participation in micro finance programme unexpectedly. This finding contradicts to the findings of ferdisa(2012) and Desale(2008) which they indicate as access of irrigation have positive influence in micro finance participation. The negative relationship indicates having access of irrigation reduces the probability of participating in micro-finance loan programme. Here, odds ratio with respect to this variable came out to be zero. This means the probability of participation is zero when respondents have access of irrigation. And hence having access of irrigation negatively correlated with MFIs participation.

Distance from Micro finance Institution (Dfmi). This variable was found to influence women's participation in MFIs negatively and significantly at 5% significance level. The implication of this negative relationship was that respondent women's who live in far from the MFI will have lower probability of participation as the length in kilometre is also one determining factor. Women's who are near MFIs have location advantage, and can have easy access of participating in MFIs at the time they are in need than others who have not a location advantage. With regard to this ferdisa(2012) also indicates as the non proximity and non-accessibility of road in the area could take time and increase cost to transport farm inputs and farm products from and to the market. The proximity of road can reflect access to get inputs easily and transport farm products to the market quickly with little post harvest losses. The odds ratio is in favour of the probability of participation to decrease by a factor of 0.9444 for those live in far place than the nearer one. This is to mean that the probability of women's participation in MFIs decreases by 0.944 as the distance from all direction in road increases by one kilometer, holding other variables constant. With regard to this findings similar result have been observed from the research papers conducted by Desale (2008) and Ferdisa (2012). From this it can be concluded that the odd ratio is in favour of women's participation in MFIs to decrease by 0.944 with proximity to all directional roads.

Educational status of Respondents (Educ): The logit model result indicates, as there is positive relationship between educational status of the respondents and women's MF participation. And this is significant at 1% level of significance. And this brought the odds ratio in favour of women's participation to increase by a factor of 3.96 as the respondent woman becomes literate..

According to Aschalew's (2006) research findings he indicates as literate women have more willingness(demand) to participate in MF programme , to take loan for better production technologies, engaged in off farm activities , purchase agricultural inputs , purchase fixed house hold asset, purchase houses, accept technical advice from extension workers, and have awareness regarding opportunities and expectation for decision making purpose and diversifying their source of income than the illiterate ones. In addition to this a research conducted by Edith (2009) ,also shows the probability of taking loan from formal as well as informal institutions becomes lower, as respondents have lower educational attainment .Thus, being literate woman increases the probability of participating in MFIs loan programme .

Time spent at the house hold work (Tshhw):- This variable was hypothesized to have a negative effect on women's participation in micro finance loan programme. The logit result depicts as time spent for the house hold work is negatively significant at 1% level of significance.

This negative relationship indicates time spent for house hold work reduces the probability women's participation in micro finance institutions. This can be justified by the fact that women's are all rounded activists at house hold ,that they do all house hold work activities, in addition to this they also participate in heavy workloads along with male partners equally, as such the time spent in house hold work increase greatly with decrease in the probability of participating in micro finance credit programme. The odds ratio is also in favour of the probability of women's participation to decrease by a factor of 0.42 as the time spent in the house hold increase by an hour.

4.3.2 Results of logit model for women's decision making in house hold income

Here the estimation result indicates that out of 18 explanatory variables that were hypothesized as to have influence on women's decision making on the house hold income included in the model, 6 variables were found to have a significant influence on women's decision making in house hold income. The variables that have a significant influence

include: being participant in ACSI credit programme, sex of the house hold head, livestock holding calculated in cash, house hold size, annual income earning from off farm activities, respondents involvement in social and community leadership. Whereas the variables that were hypothesized as to will have significance but not have any influence are age of the respondent, marital status, education, number of dependents source of credit other than ACSI, own house, asset of the house hold calculated in cash, total land holding in timade, annual income earning from farming activities, saving account and respondents age square.

The model output revealed that household size (HHsize) is significant at 5% level of significance, sex of household head (significant at 1%), livestock holding calculated in cash (significant at 5%), being participant of ACSI loan programme (significant at 10%), annual income earning from off farming activities (significant at 10%), respondents involvement in social and community leadership (significant at 5%); were as the rest of the variables that were hypothesized as influencing decision making of women's in house hold incomes were unexpectedly found to be statistically insignificant. These are; respondent's level of education, asset of the house hold calculated in cash, age square, annual income earnings from farming, and marital status.

Table (5.2) Estimates of maximum –likelihood logit model on women's decision making in house hold income decision(Dhhinc =dependent variable)

Variables	Estimated coefficient	Odds ratio	Z	P> Z
Age	-.1308058	.8773882	-0.78	0.433
Mstatus	0.000138	1.000014	0.37	0.710
Hhhead	2.850837	17.30226	4.59	0.000*
HHsize	-.4035094	.6679718	-2.46	0.014**
Educ	-.3125938	.731547	-1.37	0.170
Ned	-8.28e-06	.9999917	-1.42	0.156
SCoACSI	-.1911814	.8259827	-0.61	0.539
Nohous	-.1367683	.8721723	-0.29	0.771
AHHCIC	.0000132	1.000013	1.12	0.262
LHCIC	0.3998886	1.491658	2.07	0.038**
TLHIT	0.0668304	1.069114	0.44	0.661

AIEFF	-.0000387	.9999613	-0.89	0.374
Aaincoff	0.4295115	1.536507	1.75	0.080***
Sacc	.0187203	1.018897	0.04	0.966
PART	.8764235	2.402293	1.72	0.085***
Agesqu	.0294296	1.029867	0.36	0.716
Tshhw	-.017539	.9826139	-0.21	0.833
ISA	1.018833	2.769959	2.35	0.019**
-constant	2.814008		1.42	0.157
Number of obs= 308 Wald chi ² = 43.9 2 Prob> chi2 =0.0010 Pseudo R2 =0.2729 Log pseudo likelihood= -140.63286				

Source: own survey, 2013

*, **, *** indicates at 1%, 5%, 10% level significance

Explanations on significant explanatory variables

Being participant of ACSI (**PART**) was one of the factors, which is vital in determining decision making on house hold's income by woman respondents. As the table (5.2) depicts the econometric model result revealed that being participant of ACSI increases the odds ratio in favour of women's decision on households income increase by a factor of 2.4. This is due to the fact that the training given by ACSI on how to handle and control loan financed activities provides a chance to women clients to acquire their own assets, and to develop confidence on making important decisions on the household's income. On the other hand livestock holding calculated in cash(**LHCIC**) is one of the economic factors, which positively affected women's decision making at house hold income (significant at 5% level). Holding other things constant, the odds ratio is in favour of women's decision on house hold income increase by a factor of 0.668 as the household livestock holding calculated in to cash increases by 1 birr. The possible explanation is that in rural communities of the study area male partners who have increased number of livestock, give due attention for their cattle raring and farm activities, and the house hold management is left for women's and other house hold members. In addition to this the woman's share in the increased number of livestock is by half, and hence by assuming this and fearing divorce women's decision on

the house hold's income increases as the number of livestock increases calculated in to cash. From this it is possible to conclude that increased livestock ownership will have positive influence on decision of house hold income by women partners. The other variable which was hypothesized as it will have a positive relationship with the dependent variable was respondents average annual house hold income from off farm activities (**Aaincoff**), and from this, the logit model result depicts a positive relation between annual income earning and women's decision on house hold income. The odds ratio in favour of women's decision on house hold income, holding other variables constant, increase by a factor of 1.54 as house hold off farm income increases by one Birr. The result corresponds with the prior expectation. Furthermore respondents involvement in social and community leadership(IAS) was one of the variables that hypothesized as to have positive correlation with women's decision making in the house hold income. With regard to this the logit model result indicates that involvement in social and community leadership is positive and statistically significant at 5% level of significance. Further more the result indicates that the odds ratio in favour of women's decision on the house hold income increases by a factor of 2.77 as in involvement in social and community leadership increases by a unit. And hence it is possible to conclude that women's that participate in social affair issues like ,edir , female associations, cooperative association ,political leadership and the like as member and as a leadership increase the probability of women's participation in the decision of the house hold income as well.

4.4 The major challenges of ACSI and its programme

Currently through its 212 branches and 24 micro-banks it has reached in 168 woredas in the region, and operates in 3396 kebeles or peasant Associations. As of November 2012, Amhara Credit and Saving Institution had an outreach of over 775,399 active credit clients (with over 12,908,016,638 birr outstanding loan balance and the current loan on clients is 3,007,906,384 birr). Currently 2,108,231 clients have saving account throughout the region and net saving is 1,796,690,317 birr. From the total ACSI beneficiaries 56% of them are females.

This indicates as the institution is in a good performance in outreach as well in distribution of credit to poor people's; even though it's current achievement is promising for financial freedom and growth of micro finance institutions in the country, there are some problems encountered to be solved, those are:

A) Lack of sufficient loadable fund: ACSI provides loan up to 7500 birr. But this is nothing according to the current price of market goods and service as the inflation is high enough now days throughout the country.

B) High interest rate: At now ACSI provides loan in different interest rate group, that the interest rate ranges from 8.5%---18%, which is high especially for women's, that may discourage women participants to not participate in a long period of time.

C) Other programmes loan distribution: In the study area, loan is distributed not only by ACSI but also by other development programmes, and the loan distributed by those programmes is not repaid on time, and this creates negative impact on ACSI's loan repayment performance.

4) Lending methodology: The lending methodology is group based and peer pressure. The Group-based criteria affect the development of new financial products, which need individual instead of group collateral. Considering centre size, some people who are looking for credit 75 from the program have faced problems of the centre size criteria. The criterion needs 3, 3 to 7, and 5 to 7 groups' members. Since the rural poor are sparsely settled over the area, it is Difficult to form one place where the members may not trust and follow-up on each other. Here in this study participants and non-participants argue as the group lending system is in appropriate.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1. Conclusion

Problems of deprivation, lack of access to essential needs of human beings, inadequate income e.t.c, are all manifestations of poverty in sekota woreda. In our country particularly in Amhara region and the study area women are marginalized from economic, social and political empowerments due to multifaceted reasons. As a viable approach to poverty alleviation and development, Ethiopian government believes that microfinance are one of the instruments designed to reduce poverty, create job opportunities assist the poor, particularly women, to bring about economic empowerment.

The overall objective of the study is to identify and analyze the determinants of women's participation in micro finance institutions and their decision making in the house hold income in a case study of Amhara Credit and Saving Institution(ACSI) in sekota woreda, Amhara National Regional state, Ethiopia .For this study the input data was obtained from cross sectional data collected from 5 sample kebeles of 209 MF participants and 100 non-participants in MF loan programme. In addition to this to implement the study group focused discussions, interviews, and informal discussions were used.

The data was then analyzed using both descriptive and econometric methods. Logit model was employed to identify the determinants of women's participation in MF institution and their decision-making on house hold income. Descriptive statistical analysis was carried out and compared the mean of participants and non participants with respect to the variables.. The descriptive statistics results showed that there were significant differences between participants and non-participants with respect to age, total land holding size, number of dependents , total land holding calculated in cash, , asset of house hold calculated in cash annual income earnings from off farm and on farm. Further more the result indicates that majority of participants in ACSI have improved their access to and control over assets. In this regard, women now own and control economic assets such as livestock and better dwellings. Asset possession of participants has been found to be better when compared with non-participants of similar category. MF programme participant women's have been found to be in better socio-economic status, in terms of their increased income levels and control over their earnings, when compared with the non-participants in the study area.

The decision-making role of women participants has improved over time. Most of the participants have been able to make decisions by themselves and decide with negotiation of their husbands in issues of child education, decision on saving, decision on household expenditure than their counterparts. With regard to decision on large sale (sale of cows, donkey, oxen) is concerned 80(38.27%) and 105(50.25%) of participants and 36(36%) and 21(21%) of non-participants have been deciding by themselves and in negotiation with their male partners respectively.

Furthermore, logit model estimation was applied to analyze the factors that determine women's participation in micro finance and their decision making on the household income. With regard to the logit model results from a total of 24 explanatory variables that hypothesized to determine women's participation in micro finance institutions the logit regression model, indicates as 15 variables (household size, number of dependents, previous experience on credit use, total land holding in timade, available number of houses, availability of saving account, market for products and services, perception about interest rate, irrigation access, access of support, distance from micro finance institutions, distance from the main market, educational status of the respondents, having farm land, time spent in household work.) had statistically significant influence on women's participation in micro finance loan programme.

In addition to this logit econometric model was used to analyze the factors that determine women's decision making at household income. Here to assess these 18 variables were hypothesized as to have influence on women's decision making at household income. Of those variables 6 were found to be statistically significant (being participant of ACSI, sex of the household head, livestock holding calculated in cash, household size, annual income earnings from off farm activities, respondents involvement in social and community leadership).

And hence this study has attempted to come up with the result of the descriptive and econometric analysis with defined scope however a lot remained to be unanswered and it is open for further study.

5.2. Recommendations

Based on the findings established by this study, it is possible to make the following Recommendations:

- ❖ Beyond the financial support, the contribution of micro-finance services to women's participation should be enhanced through a combination of more effective support services (technical, material capacity building, business development service and the like) or linkages should be made with services provider organizations like TVET, micro and small scale organization, women children, youth affairs that work directly to enhance gender mainstreaming, challenge women's marginalization and subordination by helping to improve the socio-economic status of women.
- ❖ The econometric result analysis indicated that distance from the micro finance institution is negatively significant along with women's participation. And hence to increase the number of women's participating in the micro-finance program, and provide the service who are far from the institution, ACSI should establish sub-branch offices for the community that live far away from the institution and expand its service to non service exist kebelles. Because women's who live in a distant kebelles are not getting the service and some participants who are in far face transportation difficulties when travelling long distances to obtain the service.
- ❖ According to the logit analysis result annual income earning from off farming activities is positively significant along with women's decision making in the house hold income, this is due to the fact that women's who engaged in off farm activities earn income and they are independent on their husbands and other family members economically and they are empowered. Therefore based on this finding ACSI should formulate means of diversifying women's income generating activities and also create awareness on how women could exercise better control over their incomes. It is important to create directives, which women could easily implement by themselves so as to generate considerable change. The provision of ACSI micro-finance service to engaged in off farm activities to achieve income diversification, and have role in house hold income decision is significant factor in improving women's awareness as well.
- ❖ According to the logit analysis result perception about the interest rate was related to women's participation in micro finance negatively and significantly. And hence ACSI should rethink its present maximum and minimum interest rate in a way that

encourages and make that women's to be long years participant in the credit programme. And even there should be lower interest rate designed for the benefit of women clients only just to increase women participants.

- ❖ As the findings of this study revealed market access for products and services is one of the key determinants of participation in MFI and positively significant along with women's participation in micro finance. And hence just to increase the number of ACSI participants in its loan programme, in addition to loan disbursement, there should be a unit or department filled with experts that conduct market analysis and make linkage of producers along with customers of products and services.
- ❖ Furthermore the econometric result indicated that women's involvement in social and community leadership is positively significant with women's decision making of house hold income. This is due to the fact that women's that involve as member or leader ship in community associations, in different committees structures indicates their acceptance in the community ,as such women's acceptance at home in deciding house hold income and other house hold issues is also high as well. And hence to enhance women's empowerment, women's participation in different governmental as well as community structures should be given due emphasis.

References

- Abebe Tiruneh (2006) The impact of Micro finance on poverty Reduction: *The Cases of three branches of Specialized Financial and Promotional Institution (SFPI)*
- Ackerly, B.A. (1991). Testing the Tools of Development: Credit Programmes, Loan Involvement, and Women's Empowerment. *ids bulletin* 26(3), 56-68.
- Alemayehu , y, (2008). The performance of six micro finance Institutions in Ethiopia.
- Amemiya , T.,(1981).Qualitative Response Model: A survey . *Journal of Economic Literature*.
- Atieno, R. 2001. Formal and informal institutions' lending policies and access to credit by small-scale enterprises in Keya: An empirical assessment. *African Economic Research Constortium*, Nairobi.
- Basu, P. and P. Srivastava, (2005) Exploring possibilities: Microfinance and rural credit access for the poor in India, *Economic and Political Weekly*, XL (17):
- Batliwala, S (1995). Education for Women's Empowerment. ASPBAE Position Paper for the Fourth World Conference on Women, Beijing, New Delhi, Asia-South.
- Belay Asefa (2001). *Best practices in Micro-finance; Lessons to Ethiopia*. A paper presented on International workshop on Micro-finance, Mekelle University, Mekelle Ethiopia.
- Biruk,A., (2010). The attitude of food for work benefit towards the implementation and challenges.
- Borchgrevink , A; Tassew W., Gebrehiwot, A. and Woldeab T. (2003). I, Ethiopia .
- Brown, T., (2005). Targeting Ethiopia's productive Safety Net Programme (PSNP)
- Daba, Moti. (2004). *The impact of Micro-finance on poverty reduction : A case study of Oromiya credit and saving s.co*. A paper presented in the international conference on Micro-finance Development in Ethiopia; January 21-23, 2004 Awassa, Ethiopia.
- Desale ,S., (2008). Determinants of farmers' participation in MFIs and their savings magnitude in West Shewa Zone. An MSC. Thesis presented to the school of Graduate studies of Haromaya Univeristy

Dhiraj jain and Bhagyashree jain (2012) Does Micro Finance Empower Rural Women? – empirical study in Udaipur district, Rajasthan (journal Arts, science and commerce)

Diagne, A. and M. Zeller, (2001) Access to credit and its impact on welfare in Malawi, Report No.116, International Food Policy Research Institute, Washington, DC, USA

Diagne, A., (1999) Determinants of household access to and participation in formal and informal credit markets in Malawi, FCND Discussion Paper No.67, International Food Policy Research Institute, Washington, DC, USA.

DPPC (2000): Performance of different sectors in the Waghimira Zone, Sekota

Dunford, C. (2000) “In search of “Sound practices” For Micro Finance.” Journal of

Edith, T., (2009). Micro finance, social capital and Households access to credit: evidence from Cote D’Ivoire. University of Cocody-Abidjan Dept. of Economics and Management

Ferdissa Birru, 2012. Determinants of Small holder Farmers’ Participation In Micro finance and their Saving Behavior In Oromiya Region , a cross sectional approach. Forecasts,” 2nd Edition, McGraw- Hill Book Co. New York.

Getaneh G. (2005). *Micro-finance development; can impact on poverty and food insecurity be improved up on?* In Gebrehiwot A (Ed) In Micro-finance Development in Ethiopia : Impact and sustainability of MFIs. Proceedings of the international conference on Micro-finance Development in Ethiopia, Awassa.

Green, W., (2003). Econometrics Analysis .Fifth ed. Printice Hall, Pearson Education , Inc. Upper Saddle river , New Jersey. New York University

Haimanot, (2007), Impact of Micro-finance on Women’s Economic Empowerment: A Case-Study of Amhara Credit and Saving Institution (ACSI), Kobo Woreda, Amhara National Regional State, Ethiopia

Jaleta., M, (2012). Commercialization of small holders: Is Market participation enough?

Kereta, B., (2007). Outreach and Financial performance Analysis of Micro finance Institutions in Ethiopia.

Khandker, Shahidur R., Baqui Khalily, Zahed Khan, 1995. Grammen Bank performance And Sustainability , World Bank Discussion paper, the world Bank, Washington , D.C

Ledgerwood, J (1999). Sustainable Finance with the Poor, Micro finance Handbook: Loans to Women in Rural Bangladesh. World Development 29(1), 63-84.

Ledgerwood, J (1999). Sustainable Finance with the Poor, Micro finance Handbook: An Institutional and Financial Perspective. Washington, D.C: The World Bank.

M.Anjugam & C.Ramasamy(2007): Determinants of Women's Participation in Self-Help Group (SHG)- Led Microfinance, Agricultural Economics Research Review Vol. 20

Maddala, G.S. (1999). Limited- Dependent and Qualitative Variables in Econometrics. Cambridge University Press, United Kingdom.

Mayoux, L. (1997). The Magic Ingredient? Microfinance and Women's Empowerment. A briefing paper prepared for Micro Credit Summit. Washington, U.S.A.

Mc Gurie, P and Conroy, J (2001). "The Role of Central Banks in Asia and the Pacific." London. ITDG Publishing.

Meagher, p and Wilkison, B (2002). "Towards A Market – Friendly Environment for Microfinance: Legal and Regulatory Reforms in Zambia" Small Enterprise Development. An International Journal of Microfinance and Development (11) 4, 24 29.

Mengistu Bediye (1999). "*The significance of Linking Informal and Formal Institutions for Development*". In Alemu and Dejene (eds), Institutions, Resource and Development in Ethiopia. Proceedings of the ninth annual conference on the Ethiopian economy,

Morduch, J. (1999). The Microfinance Promise. Journal of economic Literature. 37, 1569-

Narayan, D (2002). Empowerment and Poverty Reduction: A Source Book. Washington, DC, The World Bank.

Otero, M (1999). "Bringing Development Back, in to Micro finance." Journal of Micro finance.

Padma, M. and Getachew Ayele (2004). Women Economic Empowerment and microfinance: A review on Experiences of Awassa Women Clients. A paper presented in the International Conference on Microfinance Development in Ethiopia held at Awassa, Ethiopia.

Paolo, I., (2010). Financial sustainability of micro finance institutions (MFIs) : an empirical analysis . Dept.Of Economics at Copenhagen Bussiness School.

Park, A. and Ren, C. (2001).Microfinance with Chinese Characteristics. World Development 29(1), 39-62. Padma,

Pindyck, Robert S. and Rubinfeld, Daniel L. 1981, “Econometric Models and Economics

Pitt, m., and Khandker, S. (1995). Household and Intra household impacts of the Grameen Bank and similar targeted credit programs in Bangladesh. Paper presented at workshop on Credit programs for the poor: household and intra household impacts and program sustainability by the Education and Social Policy Department, Washington, DC and Bangladesh Institute of Development Studies, Dhaka.

Pual , M., (2004) .Demand for credit in Rural Uganda: Who cares for the peasant?

R. Becker, S; and Bayes, A. (1998). *NGO promoted Micro-credit programmes and women's Empowerment in Rural Bangladesh; Quantitative and Qualitative Evidence* . The Journal of Development Areas 221-236.

Rahmato D(1991) ‘ Rural women in Ethiopia paradigms and prospect Gender issue in Ethiopia Institution of Ethiopian studies –AAU

Robinson, M,(2001) . Sustainable Rural Systems :Sustainable Agriculture and Rural Communities

Ruther ford, S.,(2010). The poor and Their Money: An essay about financial services for poor people. Dept. for International Development, New Delhi, India at Univeristy of Manchester

Semeneh Tamerat(1999) The role of women in Agricultural production (National workshop on women in Agricultural production Among the sidama of swecertiwid on women in Agricultural Development ,Awassa, Ethiopia.

Sisay yehula (2008), Determinants of small holder farmers access to formal credit: The case of metema woreda, North Gonder , Ethiopia.

Tesfay(2003) . Micro finance and the benefit of the poor

Welday Amha, 2003. Micro finance in Ethiopia : Performance , Challenges and Role in poverty Reduction . AEMFI, Occasional paper, 7.

Wener , G., and Earnest , I., and Olivera, H.,(2003). Who needs credit? Poverty and finance in Bangladesh. Zed Books. London

Wolday Amha (2007). Managing Growth of Microfinance Institutions (MFIs): Balancing Sustainability and Reaching Large Number of Clients in Ethiopia Occasional Paper No. 18.

Wolday Amha , 2002. Addressing poverty in Ethiopia : Concepts , Measurements and Challenges : A training Manual (in Amharic and English), Submitted to the Ethiopian Economic Association (EEA), Addis Abeba

Wolday Amha , 2003. Micro finance in Ethiopia : performance , Challenges and Role in poverty Reduction , Occasional Paper Paper No. 7, Association of Ethiopian Microfinance Institutions and Federal Cooperative Agency. Addis Ababa, Ethiopia.

Zeller, M., and Meyer, R.,(2002). Group credit: a means to improve information transfer and loan repayment performance . Journal of Development Studies, Vol. 32(2),pp. 263-81.

Zeller, M. and Sharma, M. 1996, "Repayment Performance in Group-Based Credit Programs in Bangladesh," An Empirical Analysis, Food Consumption and Nutrition Division, International Food Policy Research Institute Washington D.C., USA.

Annexes

Annex 1A Logistic regression for women participation in MFI

Logistic regression	Number of obs	=	307
	Wald chi2(24)	=	101.16
	Prob > chi2	=	0.0000
Log pseudolikelihood = -38.542526	Pseudo R2	=	0.8011

PART	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	.5266182	.3563672	1.48	0.139	-.1718487	1.225085
mstatus	.9408002	.7208481	1.31	0.192	-.4720362	2.353637
Hhhead	.7947412	.9425398	0.84	0.399	-1.052603	2.642085
HHsize	.8867701	.3238675	2.74	0.006	.2520014	1.521539
Educ	1.376852	.4033478	3.41	0.001	.5863044	2.167399
Ned	-1.969158	.5121167	-3.85	0.000	-2.972888	-.9654275
Nohouse	2.848812	.5418767	5.26	0.000	1.786753	3.91087
AHHCIC	-.0000136	.0000274	-0.49	0.621	-.0000673	.0000402
LHCIC	-7.74e-06	6.15e-06	-1.26	0.209	-.0000198	4.32e-06
HfaLa	3.338278	1.612547	2.07	0.038	.1777447	6.498811
TLHIT	4.657968	1.672868	2.78	0.005	1.379206	7.93673
Aaincoff	-.0001522	.0000966	-1.57	0.115	-.0003415	.0000372
AIEFF	.0000691	.0000595	1.16	0.246	-.0000476	.0001857
Sacc	4.626485	.962837	4.81	0.000	2.739359	6.513611
agesqu	-.1929589	.1542244	-1.25	0.211	-.4952332	.1093154
Peinr	-.7257166	.3909511	-1.86	0.063	-1.491967	.0405336
Dmfi	-.0571481	.0243855	-2.34	0.019	-.1049427	-.0093535
Dfm	-.122668	.0350018	-3.50	0.000	-.1912703	-.0540658
irrigacs	-1.634616	.9206455	-1.78	0.076	-3.439048	.1698161
Asup	4.470446	1.015941	4.40	0.000	2.479238	6.461654
Maps	3.701492	.7965852	4.65	0.000	2.140213	5.26277
Fertss	-.6963043	.7898286	-0.88	0.378	-2.24434	.8517313
Tshhw	-.8721759	.1864659	-4.68	0.000	-1.237642	-.5067094
PATC	.8926473	.5288091	1.69	0.091	-.1437995	1.929094
_cons	-4.056246	3.354423	-1.21	0.227	-10.63079	2.518301

Annex 1B Logistic regression for women participation in MFI

Logistic regression	Number of obs	=	307
	Wald chi2(23)	=	103.16
	Prob > chi2	=	0.0000
Log pseudolikelihood = -39.781818	Pseudo R2	=	0.7947

PART	Odds Ratio	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	1.733246	.600461	1.59	0.112	.8789662	3.417812
mstatus	2.293399	1.292939	1.47	0.141	.7596289	6.924011
Hhhead	2.337579	2.274975	0.87	0.383	.3470252	15.74605
HHsize	2.153812	.5840962	2.83	0.005	1.265811	3.66477
Educ	3.657901	1.424834	3.33	0.001	1.704786	7.848632
Ned	.1704663	.0844483	-3.57	0.000	.064559	.4501116
Nohouse	13.59302	6.552366	5.41	0.000	5.284496	34.96458
AHHCIC	.9999879	.000023	-0.53	0.599	.9999429	1.000033
LHCIC	.9999909	4.26e-06	-2.15	0.032	.9999825	.9999992
HfaLa	36.48682	63.58678	2.06	0.039	1.198724	1110.588
TLHIT	.5305858	.2182171	-1.54	0.123	.2369611	1.188049
Aaincoff	.9999518	.000084	-0.57	0.566	.9997872	1.000116
AIEFF	1.000044	.0000559	0.79	0.428	.9999348	1.000154
Sacc	87.81932	79.38433	4.95	0.000	14.93296	516.4571
agesqu	.8120844	.1252272	-1.35	0.177	.6002635	1.098653
Peinr	90.11236	145.1032	2.80	0.005	3.838302	2115.58
Dmfi	.9519666	.0246183	-1.90	0.057	.9049181	1.001461
Dfm	.8812181	.0346614	-3.21	0.001	.8158357	.9518404
irrigacs	.1719448	.1500412	-2.02	0.044	.0310899	.9509513
Asup	64.72535	61.63029	4.38	0.000	10.01327	418.3819
Maps	29.48674	23.55387	4.24	0.000	6.161562	141.1116
Fertss	.4778282	.3805962	-0.93	0.354	.1002949	2.276484
Tshhw	.431783	.07533	-4.81	0.000	.3067346	.6078106

Annex 1C Logistic regression women's involvement in hopusehold income decision

Logistic regression	Number of obs	=	308
	Wald chi2(19)	=	43.92
	Prob > chi2	=	0.0010
Log pseudolikelihood = -140.63286	Pseudo R2	=	0.2729

Dhhinc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.1308058	.1667115	-0.78	0.433	-.4575543	.1959427
mstatus	.0000138	.0000371	0.37	0.710	-.0000589	.0000864
Hhhead	2.850837	.6211578	4.59	0.000	1.63339	4.068284
HHsize	-.4035094	.164092	-2.46	0.014	-.7251239	-.0818949
Educ	-.3125938	.2276083	-1.37	0.170	-.758698	.1335103
Ned	-8.28e-06	5.84e-06	-1.42	0.156	-.0000197	3.17e-06
SCoACSI	-.1911814	.3114408	-0.61	0.539	-.8015941	.4192312
Ownhos	-.1367683	.4704806	-0.29	0.771	-1.058893	.7853567
AHHCIC	.0000132	.0000117	1.12	0.262	-9.83e-06	.0000362
LHCIC	.3998886	.19274	2.07	0.038	.0221252	.777652
TLHIT	.0668304	.1523165	0.44	0.661	-.2317044	.3653652
AIEFF	-.0000387	.0000435	-0.89	0.374	-.000124	.0000466
Aaincoff	.4295115	.2450821	1.75	0.080	-.0508405	.9098635
Sacc	.0187203	.4394996	0.04	0.966	-.8426832	.8801238
PART	.8764235	.5089986	1.72	0.085	-.1211953	1.874042
agesqu	.0294296	.0807665	0.36	0.716	-.1288698	.187729
Tshhw	-.017539	.0830212	-0.21	0.833	-.1802576	.1451796
ISA	1.018833	.4333937	2.35	0.019	.1693965	1.868269
_cons	2.814008	1.986811	1.42	0.157	-1.08007	6.708086

Annex 1D Logistic regression(odd ratio) women's role in hopusehold income decision making

Logistic regression	Number of obs	=	308
	Wald chi2(19)	=	43.92
	Prob > chi2	=	0.0010
Log pseudolikelihood = -140.63286	Pseudo R2	=	0.2729

Dhhinc	Odds Ratio	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	.8773882	.1462707	-0.78	0.433	.6328295	1.216457
mstatus	1.000014	.0000371	0.37	0.710	.9999411	1.000086
Hhhead	17.30226	10.74743	4.59	0.000	5.121208	58.45657
HHsize	.6679718	.1096088	-2.46	0.014	.4842646	.9213688
Educ	.731547	.1665062	-1.37	0.170	.4682757	1.142833
Ned	.9999917	5.84e-06	-1.42	0.156	.9999803	1.000003
SCoACSI	.8259827	.2572447	-0.61	0.539	.4486133	1.520792
Ownhos	.8721723	.4103401	-0.29	0.771	.3468395	2.193189
AHHCIC	1.000013	.0000117	1.12	0.262	.9999902	1.000036
LHCIC	1.491658	.2875022	2.07	0.038	1.022372	2.176356
TLHIT	1.069114	.1628437	0.44	0.661	.7931806	1.44104
AIEFF	.9999613	.0000435	-0.89	0.374	.999876	1.000047
Aaincoff	1.536507	.3765702	1.75	0.080	.9504303	2.483984
Sacc	1.018897	.4478047	0.04	0.966	.4305537	2.411198
PART	2.402293	1.222764	1.72	0.085	.8858609	6.514578
agesqu	1.029867	.0831787	0.36	0.716	.8790884	1.206507
Tshhw	.9826139	.0815778	-0.21	0.833	.8350551	1.156247
ISA	2.769959	1.200483	2.35	0.019	1.18459	6.477073

Annex 1E Vif for continuous variables of women's participation

. vif

Variable	VIF	1/VIF
age	46.88	0.021333
agesqu	46.34	0.021578
Ned	2.49	0.400808
EstVcu	2.45	0.407452
Hhsize	2.45	0.408956
AHHCIC	1.93	0.517354
Nohouse	1.85	0.540900
Dfm	1.68	0.593926
Dmfi	1.62	0.615986
Aaincoff	1.33	0.750846
Educ	1.31	0.761690
AIEFF	1.26	0.791854
LHCIC	1.20	0.834600
TLHIT	1.16	0.864990
Tshhw	1.09	0.913364
Mean VIF	7.67	

Annex 1F Variance inflation factor for discrete variables of women's participation

	PART	PATC	SCoACSI	Ownehos	HfaLa	Sacc	Rpgc
PART	1.0000						
PATC	0.0899	1.0000					
SCoACSI	-0.0932	0.3668	1.0000				
Ownehos	-0.3153	-0.0514	0.0196	1.0000			
HfaLa	0.1264	0.0515	-0.0700	-0.0225	1.0000		
Sacc	0.6932	0.0313	-0.1438	-0.0888	0.0702	1.0000	
Rpgc	-0.4088	-0.0615	0.0152	0.0795	-0.1014	-0.2886	1.0000
Peinr	0.1044	0.0268	-0.0660	0.0268	0.1503	0.0933	-0.0677
irrigacs	0.0793	-0.0828	-0.0759	-0.0749	-0.0219	0.1838	0.0086
Asup	0.1767	0.0147	0.0248	-0.0821	-0.0004	0.1096	-0.0564
Maps	0.2603	0.0487	0.0457	-0.0240	-0.0011	0.1978	-0.1040
Hdinter	1.0000	0.0899	-0.0932	-0.3153	0.1264	0.6932	-0.4088
Hhhead	-0.0340	0.0503	0.1624	-0.0211	-0.1295	-0.0550	0.1170
	Peinr	irrigacs	Asup	Maps	Hdinter	Hhhead	
Peinr	1.0000						
irrigacs	0.0717	1.0000					
Asup	0.0804	0.0502	1.0000				
Maps	-0.0614	-0.0272	-0.0037	1.0000			
Hdinter	0.1044	0.0793	0.1767	0.2603	1.0000		
Hhhead	-0.1065	-0.0710	0.0688	-0.0687	-0.0340	1.0000	

Annex 1G VIF for continuous variables of women's decision in house hold income

. vif

Variable	VIF	1/VIF
Hhhead	1.78	0.560360
mstatus	1.65	0.607085
HHsize	1.40	0.713123
Educ	1.33	0.750689
age	1.33	0.751118
AIEFF	1.21	0.824717
Aaincoff	1.21	0.826308
LHCIC	1.21	0.827214
PART	1.20	0.835197
TLHIT	1.16	0.863196
SCoACSI	1.13	0.883125
SOLHd	1.08	0.922048
Mean VIF	1.31	

Annex 1H VIF for discrete variables of women's decision in house hold income

. pwcorr SCoACSI PART mstatus Ownhos Sacc

	SCoACSI	PART	mstatus	Ownhos	Sacc
SCoACSI	1.0000				
PART	-0.0932	1.0000			
mstatus	0.0393	-0.0096	1.0000		
Ownhos	0.0196	-0.3153	0.0624	1.0000	
Sacc	-0.1438	0.6932	0.0055	-0.0888	1.0000

Annex 2- Questionnaire

Determinants of women's participation in micro finance and their decision making at house hold income:A case study of Amhara credit and saving Institution (ACSI) In sekota woreda.

This questionnaire is prepared to collect data of those participating in ACSI MFI and those of that doesn't participate in the programme which will help, to identify factors that determine women's participation in micro finance and their decision making in house hold income, in a case study of Amhara credit and saving institution/ACSI/ in sekota woreda. The result of this questionnaire will be utilized for research purpose only.. Therefore, you are kindly requested to provide genuine response to the questions that follow.

«Thank you in advance for your cooperation»

Part I socio Demographics characteristics

1. Borrower's Name -----
2. Address
Region ----- Zone -----
Woreda -----
Kebele -----
3. Age -----
4. Marital status 1. Single 2. Married 3. Divorced 4. Widowed
5. Who is the head of the house hold? 1=myself, o= other wise
6. Educational level
1. Illiterate 2. Read and write only 3. Grade 1-6 complete 4. Grade 7-8 complete 5. Grade 9-12 complete 6. Above grade 12
6. Grade 12 complete 7. Grade 12 and above
7. Main occupation 1. Farmer 2. Merchant 3. Student 4. If other specify-----

PART 2 : House hold livelihood information

8. Number of dependents including children within the house hold?
❖ Male-----
❖ Female-----
❖ Total-----
9. What is your family source of livelihood? (more than one response is possible)

	Mark ($\sqrt{\quad}$) the source
Source of livelihood	
Farming	
Micro business	
Wage labor	
Handicraft	
Fire wood selling	
Selling of Homemade drinks	
Monthly salary	
Food for work program me	
Others/ specify	

Part 3: Loan and Repayment information

10. Did you have previous access and experience in credit use?

1=Yes 0=No

11. If the answer for Q 10. is "yes", when did you take the loan?-----

12. What was/were the purpose/purposes for which the loan was taken?

1. For purchase of farm oxen 2. For purchase of agricultural inputs 3. For Fattening
4. For Petty trade 5. If for other purpose specifies? -----

13. When did you first join in to ACSI's programme? Month ----- year -----E.C

14. Did you have any source of credit other than ACSI?

1 = yes 0 = No

15. If the answer for Q.14 is 'yes', what is your source? 1) Iddir 2) Village

Money lenders 3) Friends/relatives 4) family 5) Banks 6) Other development programmes 7. From husband 8. Others specify-----

16. How many times and how much money did you receive from those sources during the past 4 years?

Source	Year	Amount

17. Have you finished repayment on loan from these sources? 1= Yes 0 = No
 18. Could you tell us the interest rate of the credit? -----percent,
 19. Is the repayment period set by ACSI suitable for you? 1= Yes 0 =No

20. If the answer for Q 19, no, recommend a suitable repayment period:_____

21. Is the loan provided timely? 1= Yes 0 = No

22. How did you take the loan from ACSI?

1. In group 2. Individually 3. Others /specify-----

23. If it is in group, how many members are there in the group?-----

24. What is your personal perception about group collateral?

1. It is appropriate 2. It is not appropriate

PART 4. LIVING CONDITIONS OF THE PARTICIPANTS/welfare/

25. Please provide the following details on the assets of the house hold that you have?

Types of assets	Average Unit current price	Available asset		Average house hold asset calculated in cash
		N ^o	Total value	
Houses including kichen				
House furniture				
Bed				
Tape				
Radio				
Television				
Refrigerator				
Jewelry				
Vehicles				
Others				

26. Do you have a house? 1= yes, 0= no

27. If you have a house before you joined to the credit programme, what kind was it? (in local language)

1. yesar Gojo 2. Yesar adarash 3. Korkoro bet 4. Hidmo 5. Others specify-----

28. How much was its construction cost in birr? -----

29. Currently how many houses do you have ?-----

30. Is there any change or improvement in your house after participating in ACSI's MFI?

1=yes 0=No

31. If the answer for the above question is 'yes; what are the changes that you made?/

1. Able to built a better house

2. Able to built additional rooms

3. Able to furnish my house

4. Specify other if there is-----

Live stock products

32. please indicate your current livestock holdings?

	Livestock holding		
Typesof production	Total owned	Price per unit	Amount calculated in cash
Oxen			
Cows			
Heifers			
Calves			
Bulls			
Donkey			
Horses			
Mules			
Goats			
Sheep			
Poultry			
Milk			
Butter			
Dung			
Eggs			
Please list if you have any personal asset that you can mention			

33.. Do you have farm land ? 1=yes 0=No

34.. Do you have irrigation land 1=yes 0= no

35. If the answer for Q33 is yes is it_____ 1= fertile 0= not fertile

36. If the answer for Q. 33 is 'yes'

1. Total land holding that was utilized in Timad before participating in MF programme? --

2. Rented in Timade before participating -----and rented after participating ----in MFI's.

37. What was your annual income earnings from farm activity before programme participation? -----,-----

38. What is your annual income earnings from farm activity after programme participation?

39. How do you evaluate the role of ACS's I programme to improve your access to and control over assets?

1. Very high 2. High 3. Medium 4. Low 5. Very low 6. No role 7. Negatively affected

Part 5: House hold income,Access to Medical Facilities and Expenditure

40. please provide the following details on the source of income and average amount of yearly income for your house hold before and after participating in MF programme?

Annual earnings from different sources	
Source of income	Amount of income gained in birr per year
Average yearly income	

41. Did your house hold income increased after participating in the programme/

1=yes 0=no

42. If the answer for Q.41 is 'yes' do you think that is due to the loan programme/

1 =yes 0 = no

43. Over the last 4 years , has your over all house hold income?

5 = Increased greatly

1. At good harvest season 2. Casual labour 3. Profit gained from existing enterprise 4. Profit gained from new enterprise

46. What is the average annual house hold medical expenditure for the last 4 years?-----

Part 6: Respondents Saving habit

1= Yes 0 =No

A. Only compulsory
B. Only voluntary
C. Time deposit
D. Compulsory & Time deposit
E. Compulsory & Voluntary

1. Compulsory -----
2. Voluntary-----

1. Compulsory saving -----
2. Voluntary saving -----

A. Profit from the business C. from my spouse Income
B. Loan from other money lender D. Remittance e) others (specify)

- A. To expand the size of the enterprise(re-invest)
- B. To repay debts
- C. To change the type of the business
- D. To buy animals
- E. To buy basic items
- F. For precaution in case of disaster
- G. Others (specify) _____

Borrowed from local money lenders along with cost 4. I did not pay

55. What is your source of money for saving(more than one answer is possible)
1. From business profit financed by the loan
 2. From other sources/specify-----.
56. What initiated you for voluntary saving in ACSI? (more than one answer is possible and give rank)
1. To earn interest
 2. For safety of cash
 3. For consumption
 4. To withdraw during emergency
 5. For animal raising
 6. To buy house hold asset
 7. If others specify-----
57. Who decide to use the savings in these ways? (indicate if there is joint decision)
1. Myself
 2. Husband
 3. Father
 4. Son
 5. Mother
 6. Other/specify with sex-----
58. How do you evaluate the role ACSI's contribution in raising your saving habit?
1. Very high
 2. High
 3. Medium
 4. Low
 5. Very low
 6. Negatively affect

Part 7 : Decision making ability in the house

59. Do you have role in decision of the house hold income?
- 1=yes 0=no
60. How much time did you spent in home while doing homemade activities a day? -----
61. Do you involve in different committee structures/kebele administrative as leader or as a member? 1= yes 0= no
62. How do you evaluate your acceptance in the house holds decision making?
1. very high
 2. High
 3. Medium
 4. low
63. Who makes decision in the household issues listed in the below table ?
1. my self
 2. my spouse & me together equally
 3. my spouse
 4. Other peoples in the house/ brother, uncle, son, and other families)

Area of Decision making				
	No.1	No.2	No.3	N0.4
Decision on loan taking				
Decision on loan use				
Decision on land use				
Decision on children education				
Decision on buying household assets				
Decision on sale ox, cow, , donkey				
Decision on sale goat, sheep ,hen and milk products				
Decision on household expenditure				
Decision on usage of family income				
Decision on social and religious ceremony				
Others				

64. How do you evaluate participating in ACSI MFI programme in women's improving decision making role in the house hold ?

1. Very high 2. High 3. Medium 4. Low 5. Very low 6. negatively affect

Part 8. Support areas of women

65. . IS there access of different supports(technical, material, financial, capacity building and the like)

1= yes 0 = No

66. If yes to Q 65, answer the following questions in the table below

Support Area	Before participation in ACSI MFI			After participating in MFI		
	No access	Low access	High access	No access	Low access	High access
Training support						
Financial support						
Row material Support						
Saving of credit service						
Furniture and machines support						
Business Information and Networking assistance						
Marketing assistance						
Marketing leakage						
Other						

67. Is there market for product and services produced and supplied?

1=yes 0=no

68...How much Km does far ACS MF from your villege?-----

69. What are the general factors that initiate women's to participate in ACSI micro finance programme-----

70. What are the factors that make women's to highly participate in the decision of the house hold income?-----
